TURUN KAUPPAKORKEAKOULUN JULKAISUJA

PUBLICATIONS OF THE TURKU SCHOOL
OF ECONOMICS AND BUSINESS ADMINISTRATION

Esa Puolamäki

STRATEGIC MANAGEMENT ACCOUNTING CONSTRUCTIONS IN ORGANISATIONS A Structuration Analysis of Two Divisional Strategy Processes

---

Sarja / Series Ae-10:2004 (pdf) A-10:2004 (nid.)
ISBN: 951-564-191-8 (pdf) 951-564-190-X (nid.)
ISSN: 1459-4870 (pdf) 0357-4652 (nid.)

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my gratitude to the people who made this doctoral thesis possible. Foremost, I would like to thank my supervisors, Professor Kari Lukka and Professor Pekka Pihlanto for their guidance during the years of my post-graduate studies. I am grateful to Professor Kari Lukka for his serious and thorough comments during my research work, and especially, for the possibility to contribute with this study to his large research program "Management Accounting Practices and Their Development: Meeting the Challenges of the 21st Century" which was financed by The Academy of Finland.

I have been lucky to receive comments from outstanding scholars. In particular, I would like to thank the pre-examiners of the thesis, Dr Alnoor Bhimani from the London School of Economics and Political Science and Professor Teemu Malmi from the University of Technology in Sydney. During the international conferences and workshops I have received valuable comments from Robert Scapens, Falconer Mitchell, Jan Mouritsen, Thomas Ahrens, Robert Chenhall, Wai Fong Chua, Michael Shields and Juhani Vaivio. The attendants of my research seminars at the Department of Accounting and Finance have inspired me with intensive discussions and hence deserve a special gratitude.

I am grateful to Ismo Rautiainen and Pekka Kujala for their continuous interest and encouragement. I also owe many thanks to the members of the case organisations for their co-operation and commitment.

The Academy of Finland and The Foundation for the Higher Education in Satakunta (Satakunnan Korkeakoulusäätiö) supported financially my dissertation project which is gratefully acknowledged.

My special thanks to Kirsti Honkasalo for her assistance in refining the English language.

Finally, my warmest thanks to my wife Pirkko and my son Juha-Veikko, who have made my burden lighter with patience and tolerance.

Pori, March 2004
Esa Puolamäki

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 Background

During the past decade a growing number of academics and practitioners of management accounting (MA) have introduced several new techniques to gain back the allegedly lost relevance of management accounting (see Johnson & Kaplan 1987). Common to many of these new approaches is their strategic undertone, their implicit or explicit purpose to serve the formulation of competitive advantage and development of the company. The accounting information systems used in strategic management are called collectively strategic management accounting (SMA) which provides data for strategic purposes, i.e. defining the strategic position, formulating strategy and controlling the strategic performance of the firm (Bromwich 1990; Ward 1992; Shank & Govindarajan, 1993; Wilson 1995). The normative literature assumes that powerful individuals introduce SMA practices to support the strategic change in their organisations. Thus SMA practices are supposed to strive for the production of new social structures unlike more traditional MA practices which reproduce the existing rules and routines. But the implementation of SMA practices may also introduce ceremonial change, the new systems may maintain the stability of the old business rationale and increase organisational inertia (see Macintosh & Scapens 1990, 460-461; Burns & Scapens 2000, 22). The search for relevance has generally increased the popularity of field research (see e.g. Atkinson et al. 1997; Ahrens and Dent 1998; Atkinson and Shaffir 1998) but e.g. Lukka and Shields (1999) have recently pointed out the still alarming gap between the managerial practice and research. The claims of lost relevance seem to be valid still today.

Management accounting (MA) is by definition an information system measuring and reporting financial information as well as other types of information which assist managers in fulfilling the goals of the organisation (Horngren et al. 1997). Management accounting provides information for internal decision-makers and it covers all types of information, financial as well as non-financial and also qualitative aspects. This information is used on an ad hoc or continuous basis for both planning and control purposes. A modern view is that the function of management accounting is not to represent

economic reality in a purely scientific way, but to give a pragmatic estimation using an organisation's congruent norms (Emmanuel et al. 1990; Horngren et al. 1997). Successful managers use a variety of control systems, traditional diagnostic systems, incentive systems and interactive communication systems in managing their organisations (Simons 1995). On the operative level internally focused management accounting supports cost management and short term resource allocation. On the strategic level the purpose of management accounting is to provide information for strategy formulation and for the long-range resource allocation.

So far the concepts of SMA have been vague. SMA literature provides several definitions and typologies which locate a number of accounting practices under the conceptual umbrella of SMA. Some of the individual practices clearly have a strategic purpose but many serve as well operative as strategic purposes. The dimensions of strategic efficiency and operative efficiency are not mutually exclusive, which makes the classification of empirical evidence difficult. The choice of a specific management accounting practice may be a strategic move although the information is used in daily operative control. Figure 1 illustrates the vague status of the SMA concept. Practices such as responsibility accounting (RA), job costing (JC) and process costing (PC) are traditional management accounting practices. In addition to these, new practices have emerged, such as target costing (TC), activity-based-costing (ABC), balanced scorecard (BSC) and competitor-focused accounting (CFA). Are these latter practices just a sign of evolving operative management accounting or are they strategic in a sense that they have external and long-term orientation? Or is SMA conceived of as being all accounting used for strategic purposes regardless of their orientation?

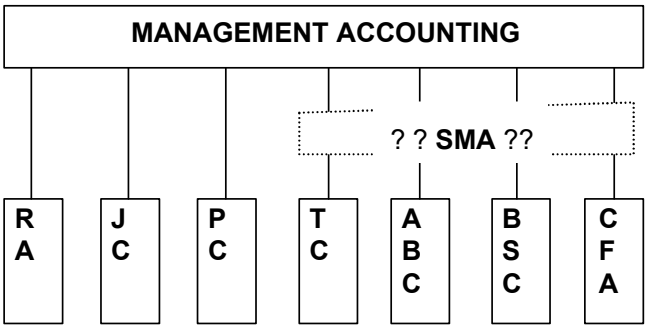


Figure 1 The vague status of the SMA concept

All the theorists seem to agree that SMA is about provision and analysis of information, i.e. building up the strategic knowledge of the decision-makers

and the organisation at large. The basic method of SMA practices is to reconfigure existing data with known accounting techniques to provide strategically meaningful information. The analytical tools may be a result of a purely internal constructive work or the organisation may apply external knowledge of consultants, academics or other experts. A more complicated situation arises when the data is missing. Usually the missing data is diffused among organisational members as parts of their individual stocks of knowledge. In this latter situation SMA practices convert the hidden data into calculations, tables, diagrams and verbal descriptions. Social interaction between individuals creates human knowledge (see Nonaka and Takeuchi 1995). By definitions SMA is knowledge creation either by a re-combination of explicit data or by externalisation of individuals' tacit knowledge to explicit knowledge. The technicalities seem to dominate the SMA literature over the issues such as operationalisation of the knowledge and socialisation of the values and norms behind the SMA constructs.

The normative expectations, i.e. the role of SMA, may vary from purely technical reconfiguration of data to socially important constitution of organisation and society. Until the late 70's *the technical role* of accounting dominated the academic discussion. Accounting was regarded mainly as a derivative practice, a neutral device that documents and reports the economic facts of economic activity using numerical computations of revenues, costs, profits, losses and returns. Management accounting research concentrated either on normative, technical, advice or on prescriptive, contingent, relationships between conceptual variables, such as environment, technology, strategy etc. and management accounting (Covaleski et al. 1996). During the 80's the understanding of accounting was profoundly transformed and *the social role* of accounting emerged in literature. Now accounting was viewed as a means of intervening, to act upon individuals, entities and processes to transform them and to achieve specific ends and thus, as constitutive of social relations rather than derivative. The context of accounting studies could vary from the individual level to organisational and societal levels (see Miller 1994.) In management accounting research the contingency arguments embraced increasingly social variables but interpretative and critical perspectives tried to offer more unique insights for understanding the multiple roles of management accounting (Covaleski et al. 1996). By definition the social role of SMA must be observable and it must offer possibilities to utilise sociological theories in understanding this role.

In MA research the role of the strategy maker as a user of accounting information has not been precise. Actors are often reduced to passive objects who possess managerial and leadership styles which differ in information needs. The interest in the individual level started in the 70's, when researchers

focused on the effects of budgets on behaviour and performance (see e.g. Hopwood 1972, 1974; Otley 1978). The relationships in these and many other management accounting studies are unidirectional emphasising the effects of different control mechanisms on individuals' performance, satisfaction, stress, trust, attitudes etc. Accounting has a role as a means of constructing reality in an organisational setting (Hines 1988), but this process is complex and difficult to study. In the practical development of business or management systems the role of the individual is crucial. There must always be an individual with specific intentions and information needs who initiates and manages the development. The individual actor has obviously been a problematic subject in management accounting research, partly because this area has been perceived as belonging to the domain of other scientific disciplines and partly because the individual as a research subject is complex and time consuming (about human centred research see Pihlanto 1994, 1995, 1996, 1997, 2000).

It is also possible to take a broader perspective to emerging SMA practices and perceive them as an outcome of the development in social institutions such as professional bodies, academia, financiers etc. which impose their norms on the individuals in organisations. The survival of the organisation depends on its ability to show appropriate managerial conduct along the institutional rules (see Meyer & Rowan 1977). Increased interest in institutionalisation has highlighted also the relationships between institutions and actors (see Scott, 2001). Giddens's (1984, 1991) theory of structuration describes structures and practices as interactive elements which do not exist without one another and provides insights into the human agency in the production and reproduction of culture-bound social systems, thus being suitable for management studies (Sarason 1995; Granlund 1998; Jones et al. 2000, Ahrens & Chapman 2002). Macintosh & Scapens (1990), and later both Barley & Tolbert (1996) and Burns & Scapens (2000), have drawn upon the structuration theory and offered their application of the institutional theory to conceptualise accounting change inside an organisation (see also Scapens 1994).

Studying the social role of SMA practices is a challenge. Simultaneous focus on the individual (initiating actor), organisational structures (daily practices) and societal structures (institutions) appeal to a specific type of social theory which comprises not only the static elements but processual functions. Accounting researchers have utilised social theorists like Foucault (e.g. Miller and O'Leary 1994) and Latour (e.g. Briers and Chua 2001) which, however, have limited potential in studying the constitution of organisational practices in the current case context and research setting. Giddens's structuration theory is a valid starting point for the analysis of the social role

of SMA, mainly, for its analytical power in explaining the agency-structure relationship giving both of them equal emphasis (Burns and Scapens 2000). The structuration theory applies even as a basis for exploration of processes of change (Barley and Tolbert 1996). The structuration theory is a means of gaining insights into SMA and clarify the nature of its social role. The focus on social role requires empirical observations in the context in which SMA operates (see Hopwood 1983) and paradigmatic pluralism is a way to enhance the understanding of SMA in practice.

This study began as a constructive case research in a situation when the information supply from existing accounting systems was inadequate for strategic purposes and the division manager initiated the development of new strategic control systems simultaneously with a strategy process. The development project lagged from its ambitious goals, but offered the researcher exquisite material for a licentiate thesis (Puolamäki 1998). The research unfolded a rich and complex world of social relationships where new management accounting practices had a role of their own. During the research process the researcher became dissatisfied with the normative SMA literature which did not help understanding the social phenomena encountered during the development processes. Luckily, the researcher had a possibility to participate in a process in a rather similar setting and the researcher made a decision to proceed with the study. Contrasting and comparing the events in the two case-organisations gave new insights into the development process of strategic management systems. The relaxed and trusting atmosphere in the post-project interviews helped the researcher to understand the managers' feelings and thoughts. The complex world of human interaction and structures started to take shape with the help of structuration theory. During the dissertation research process the focus moved from the managerial constructs to explaining their consequences. This doctoral thesis emphasises the reflections of the empirical material on the structuration theory.

1.2 The purpose of the study

The term SMA is rare in practice and the implementation of popular SMA practices such as BSC and ABC may be problematic in the sense that these practices are not in many cases used to gain competitive advantage but for various other purposes (see e.g. Granlund and Lukka 1998b). So far the answers, to questions why and how the organisations meet the intuitively appealing SMA ideas with indifference, have been scarce. Surveys give evidence of strategic performance measurement systems which have turned into operative (see e.g. Malmi 2001), but the descriptions and explanations of

these processes are nearly non-existent. Even the number of success stories is limited outside the case examples of the normative literature. The consulting research can be considered of primary importance for the academic discussion on particular SMA practices. The researchers have been in close contacts with practitioners and they often propagate their ideas in executive seminars. The key characteristics of the writings are the focus on one single technique, practicability, anecdotal case evidence and a strong normative tone overall. The basic research follows in the footsteps of the consulting research and focuses on the existing practices in organisations studying the functioning, effects and diffusion of the individual practices. Typically, the basic research applies conceptual or nomothetical methodology (on research genres see Lukka & Granlund 2002). Obviously, SMA as a set and combination of different MA-techniques lacks wider interest among consulting researchers but has gained attention among those researchers who conduct basic research and want to describe, explain and understand what is happening in organisations in a wider context.

Despite the academic interest in SMA and strategic control in general, there is still a wide research gap. Multilevel studies in management accounting are rare (Luft & Shields 2003) and, especially, there is lack of longitudinal research on how and when individual managers use SMA-techniques and what are their intended and unintended consequences. This research report is an answer to a call for this type of research.

The subject of this research is to examine strategic management accounting practices and the structural transformation in two case organisations during an extended time period. The two narratives focus in the first case on the development processes of three SMA constructs, business portfolio, strategic performance measurement system and competitor-focused accounting and in the second case on the development process of a balanced scorecard type strategic performance measurement system. The research emphasises the development of managerial constructs, and concentrates on analysing and explaining the interaction between division managers and their organisations in a strategic control setting. The key question in this research is, what is the role of strategic management accounting in the manager-driven constitution of organisational practices.

To answer the research problem this study concentrates on meeting the following objectives:

- To explore the SMA literature and to conceptualise it into a framework of SMA definitions and practices in respect of two dimensions, the time horizon and the scope of the measures.
- To contribute to the development, application and implementation of SMA constructs in the strategy process setting and to relate the

researcher's experiences firstly, to the normative literature, and secondly, to the conceptual framework of SMA definitions and practices.
- To describe and analyse the social consequences of managerial actions during and after the construction process.
- To utilise the structuration theory to explain the relationship between the different social systems and managerial behaviour in the production and reproduction of organisational practices.

The research report approaches the research question first by examining the technical role of SMA, by ascribing the specific methods of calculation and information processing to the distinctive phases of strategy process, and secondly, by analysing the social role of SMA, breaking down analytically the social role into conceptual elements and processes. The aim is to explicate the normative expectations, both technical and social, and to study them on an individual, organisational and societal level. The analysis is conducted in an actual empirical context by applying a conscious normative intervention in line with the constructive research approach.

1.3 The theory of structuration

1.3.1 The central concepts

Anthony Giddens has formulated a dialectic framework of social theory which integrates the so far antagonistic schools of thought in sociology. Giddens argues that the root cause of problems in sociology is the distinction between subject and object. Structuralism and functionalism are inclined towards objectivism and tend to emphasise deterministic pre-eminence of the social whole over the human subjects. In the hermeneutic tradition subjectivity is the preconstituted centre of the experience of culture and history and as such provides the basic foundation of social science. In interpretative sociology action and meaning are prominent but this voluntaristic position neglects the constraints of social structures. Giddens claims that the distinction between subject and object is false and that each presupposes the other in the reproduction of social systems. (Giddens 1984, 1-2.)

Giddens's (1984) structuration theory describes structures and practices as interactive elements which do not exist without one another. The theory bypasses the dichotomy of structuralism and interactionism which is visible in management accounting research as well as generally in social sciences. This study applies the structuration theory for three major reasons. First, the central

theme of the theory is that institutions and ultimately the whole society is constituted by individuals in their daily interaction with each other. The case settings emphasise the roles of the managers in the reconstitution of the organisational strategy and, more importantly, the cases illustrate a situation when the division managers have to keep distance from particular norms in the organisation in order to produce strategic change. Second, Giddens conception of social systems, enabled and constrained by the social structural properties, provides the means for the social analysis of the development of innovative SMA constructs. The theory suggests that the deliberate control of the strategic direction is possible, because the knowledge about the conditions of the system reproduction may be used to influence the reproduction. Thus the theory provides a framework for the study of interaction in the SMA development process whether the process produces new social structures or reproduces the old ones. Third, the theory provides analytical tools to study the actual structuration process, the route of a manager's strategy-initiated need of information from ideas to a technical construct and further to a SMA practice which becomes the inherent part of the social system of that particular organisation and starts to shape the future of the organisation.

The case settings emphasise also the roles of the managers as links between the organisations and external constituents. Obviously, the ideas of implementing SMA practices did not come out of nowhere. The managers had a remarkable working experience and close contacts to other social systems than their current organisation. The concern for the influence of plural social systems on the individual manager has been largely neglected in the current MA research. This study makes passing references to various institutionalist writers but adopts Whittington's (1992) approach to structuration theory which highlights the intersection and tensions between institutionalised social systems. The agency stems from managers' capacity to act according to different system rules. This voluntaristic position is constrained by the capability of the managers to gain access to the alternative structures. They must have the right qualifications and autonomy. (Whittington 1992, 706.) The first part of the following discussion describes the central concepts of the structuration theory and the second part concentrates on the contribution of the structuration theory to the SMA research.

The following subchapter will concentrate on those concepts of the structuration theory which will gain insights into the case setting. The concepts of the duality of the structure, production and reproduction of social structures and the plurality of social systems are discussed successively.

Action and structure are unseparable and their relationship emphasises the role of agent in creating social practice. The links between the levels of interaction and structure are presented in Figure 2 which describes the concept

of *duality of structure*. The structural properties of social systems are both a medium and an outcome of the practices they recursively organise. Structure, out of time and space, is marked by an "absence of the subject" (Giddens 1984, 25). In the structuration theory the individual is constructed as an existential agent with a stratified psyche and in social settings agents are purposive and reflexively monitor their own actions and the actions of others (Macintosh & Scapens 1990, 459).

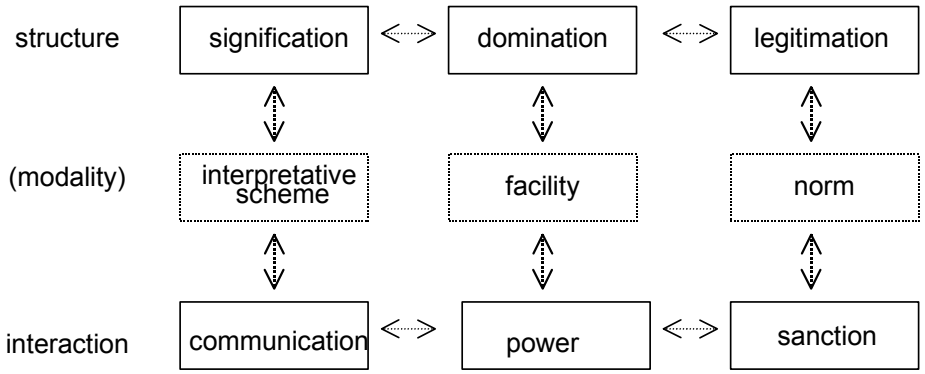


Figure 2 The dimensions of duality of structure (Giddens 1984, 29)

Social structures have three interlinked dimensions: signification, legitimation and domination. The corresponding elements of interaction are communication sanction and power (Giddens 1984, 29; Macintosh & Scapens 1990, 457). Modalities such as interpretative schemes, facilities and norms relate the knowledgeable capacities of agents to structural features (Giddens 1984, 28). The elements of the framework are linked and only analytically separate. *Agents* use modalities to create interaction while they are also the medium for reproducing the structural properties. Rules and routines (Burns & Scapens 2000) and scripts (Barley & Tolbert 1996) are modes of interaction.

Structures do not have objective reality except as they are represented in activity or retained mentally as remembered codes of conduct or rights to resources (Giddens 1984, 377). Giddens distinguishes between the social system and structure. Structure thus refers, in social analysis, to the structuring properties allowing the binding of time-space in social systems, the properties which make it possible for discernibly similar social practices to exist across varying spans of time and space and which lend them systemic form (Giddens 1984, 17). The regularised relations of interdependence between groups and individuals form *social systems*. Social systems should be regarded as widely variable in terms of the degree of "systemness" they display and rarely have

the sort of internal unity which may be found in physical and biological systems (Giddens 1984, 377).

Structure exists as memory traces orienting the conduct of knowledgeable human agents. The most deeply embedded structural properties implicated in the reproduction of societal totalities, Giddens calls structural principles. (Giddens 1984, 17.) Thus the concept of structure differs from the structure concept of management literature which refers to structures as observable organisational configurations. A social system is not a structure but it has structural properties. Responsibility accounting is an example of traditional accounting that measures the plans and actions of each responsibility centre which is a part, segment, or subunit of an organisation whose manager is accountable for a specific set of activities. The higher the manager's level the broader the responsibility centre, and generally, the larger the number of his or her subordinates (see Horngren et al. 1997). As long as RA is an idea or just figures in a report, and it does not orient the conduct of the actors, it has no role in the structuration. But when a social, e.g. the control (or accountability), system of an organisation is organised around RA it has a special function in interaction and structure. Social systems as the control system of an organisation are based on regularised relations such as formal hierarchies and situations. These are observable, for example, in monthly management meetings in business units. The permanent subject on the agenda is cost reports which are interpretative schemes of the business operations, facility of the data compilation and norm of the business conduct. Individual agents use the reports in interaction to communicate their meanings, to mobilise others and to express their moral stand. Usually all these elements are intertwined, when a manager takes the floor and gives a presentation on the business's financial situation, insists on the actions and gives feedback on the quality of operations.

RA has structuring properties when participants share the signification of the situation similarly, the hierarchy of domination and accept that the RA legitimates the actions, thus responsibility accounting signifies the economic viability, constitutes the organisational hierarchy and legitimates, for instance, discontinuity of a cost centre. RA implies structural properties in social systems (e.g. in control systems), structure inside structure which makes it possible that similar practices exist in various organisations and during different time periods. RA gives, thus, to control in different organisations and in different time spans their similar systemic form, although it may engender different forms of interaction (see also Ahrens and Chapman 2002, 19), as the monthly meetings may focus on significantly different issues on the basis of the technically same type of cost reports.

Structures are, thus, hierarchical and simultaneous. Structure may refer to rules and resources of a part of an organisation or to the whole organisation. Individuals participate also in different social systems and they may draw upon the rules and resources of professional systems and introduce the alien norms to the organisation, particularly, when they are in top management (Miles and Snow 1978; Fligstein 1987; Whittington 1993). RA refers to the norms of proper management conduct which are typically associated with the finance profession and function. RA implies also more deeply embedded structural properties i.e. principles such as capital ownership/profit maximisation and expertise/professionalism which are the building blocks of the western society. For the moment, RA is a typical management accounting practice which has structural properties prior to interaction. In routine usage RA has no link to a specific person, but it orientates the conduct of actors. However, the structures of control and accountability are produced and reproduced only in interaction. The structures of RA may change in interaction. The emphasis may move for instance from the legitimating of action to ritualistic type of control which signifies the status of the manager. RA may even become obsolete and lose its structural properties when control is reorganised, for example, around non-financial measures and the structural properties of the new practice are produced in interaction. Altogether, in this example, the imperatives of actual usage define the social role of responsibility accounting in its context and structuration theory can take this role into analytical pieces.

Agency refers to the actions of the individuals in social settings. Agency takes place as a continuous flow of action. Agents intervene, not merely with automatic responses but rather in a way that presents them with the possibility of acting in such a manner that social structures are sometimes modified or radically altered (Macintosh and Scapens 1990, 458). The rules and resources drawn upon in the production and reproduction of social action are at the same time the means of system reproduction (the duality of structure).

The theory of structuration captures the simultaneous change and stability. The reflexive monitoring is routinely and chronicly activity of action. Actors also routinely monitor social and physical aspects of the contexts in which they move. By the rationalisation of action the actors maintain a continuing theoretical understanding of the grounds of their activity. *The reflexive monitoring* of action in situations of co-presence is the main anchoring feature of social integration. Both the conditions and the outcomes of situated interaction stretch far beyond those situations as such. Understanding the conditions of system reproduction becomes a part of those conditions of system reproduction itself. (Giddens 1984, 5 and 191.)

The circuit of reproduction is a double-loop relationship, first, between mediative or transformative structural properties, structuration and reflexive monitoring, and second, the corresponding relationship between the structural properties, reflexive monitoring and the structural principles of institutional domains. The structuration process of social systems may imply change but simultaneously it leaves the socially embedded principles intact. The reproduction of social systems is closely linked to the agent's conscious or unconscious need of *ontological security* which is grounded in primary anxiety controlling mechanisms and which expresses bodily control within predictable routines (Giddens 1984, 50). Situations that are predictable, stable over time and ordered in space are an important means of coping with unconscious anxiety (Macintosh and Scapens 1990, 459). However, the sources of security vary from one person to another. An allegoric picture of unbroken snowfield in the middle of wilderness at the beginning of a strategy presentation may be for some people a poetic expression of ultimate strategic freedom while others perceive it as a threat to suffer a horrible death under the unpredictable conditions of the nature.

Giddens's (1984, 164) notion of *multiple social systems* has relevance to the management accounting studies. In the modern world social systems increasingly intersect in globalisation, ownerships, partnerships, professions etc. In the intersection of the institutions none of them has undiluted priority (Whittington 1990, 695) which causes tensions between systems. An individual is engaged in a multitude of plural and overlapping social systems which thus create a network where the individual actors link the different social systems. A fundamental component of manager's activity is choice (Whittington 1992). Giddens (1984, 193, 198) suggests that structural principles operate in terms of one another but still also contravene each other. Structural *contradiction* is disjunction of structural principles of system organisation. The emphasis of the Giddensian social analysis is not on the functions that social practises fulfil but on the contradictions they embody and in which they are played through (Capps et al. 1989). By *conflict* Giddens (1984, 198) means actual struggle between actors or collectivities expressed as definite social practices. Whereas contradiction is a structural concept, conflict is not. If contradiction does not inevitably breed conflict, it is because the conditions, under which actors not only are aware of their interests but are both able and motivated to act on them, are widely variable.

The subversive nature of SMA undermines the existing patterns of management accounting and makes the underlying contradictions and conflicts surface. The modern multinational company is exposed to new alien influences. The case settings introduce two trends of the post-modern world, globalisation and outsourcing which, among other things, bring the

organisation into contradiction with many systems of activity (see Giddens 1984; Whittington 1992, 696).

1.3.2 The implications for strategic management accounting research

The applications of the structuration theory in MA research are not very extensive yet they represent a variety of ways to utilise the theory. The first studies focused on the cultural aspects of management accounting (Capps et al. 1989; Mouritsen 1990) and maintenance and change of social order (Macintosh & Scapens 1990). Later research noticed the value of the theory in explaining the role of management accounting in the context of major organisational change (Macintosh & Scapens 1991; Granlund 1998). Ahrens & Chapman (2002) applied the structuration theory to describe the daily contest of accountability around performance measurement systems. Traditionally, in management accounting studies management accounting is, or should be, an institution, part of an organisation's structural rules and routines (Burns & Scapens 2000). Contextual variables determine the implementation of different management accounting techniques and the focus is on the effects on subunits or individuals. However, the structuration theory provides a counter-argument, the causation runs in both directions. A manager can also use information and control systems to sustain change in an organisation.

At a very concrete level new performance systems or broader new management control systems create new reality which in its turn changes the control systems. From a far more abstract perspective this process of interaction can be seen as the structuration of social systems, *"... modes in which such systems, grounded in the knowledgeable activities of situated actors who draw upon rules and resources in the diversity of action contexts, are produced and reproduced in interaction"* (Giddens 1984, 25). The focus in this study is on those processual constructive activities which manifest the interaction of manager and organisation. Although SMA as a "knowledgeable capacity" is partially a cognitive phenomenon, this study concentrates mainly on the observable behaviour and visible patterns of action.

In contrast to the institutionalised forms of financial accounting and management accounting which have structure prior to interaction, SMA's role in strategy processes tends to be interactive. It is part of the actor's communication, ability to change the situation and sanction the social conduct in the organisation. Adoption of SMA systems is production of social structures while management accounting is reproduction of those structures (structuration theory and MA, see Macintosh & Scapens 1990, 460-461). First

after a successful implementation a SMA construct becomes a practice, a part of the structures, and it has structural properties like any other MA system. According to Giddens (1984, 9) *"Agency refers not to the intentions people have in doing things but to the capability of doing those things in the first place."* In this sense agency implies the transformative capacity, i.e. power of the agent. Through continuous intervention agent modifies the structures by strengthening them or by changing them. In a strategy process SMA represents agency, "capability to make change in the world". On the other hand, the human need of routines, ontological security, explains the organisational inertia and resistance to change. The following notions relate SMA to the elements of structure.

The concepts of this inquiry into the social interaction during the strategy development process draw from Giddens's structuration theory which effectively illustrates the role of SMA practices constituting a social structure meanwhile they are the medium of this constitution. Secondly the theory explains the process when SMA practices lose their link to the agent and transform into institutionalised systems inside the organisation.

SMA as signification structure is a medium of communication and it provides managers with effective means of deploying the strategically important issues in the organisation, both in its upper echelons and on the shopfloor. Typically, in the beginning SMA concepts lack the signification structure which is successively created through interpretative schemes during the strategy or business development process when the social actors start to share the understanding of the emerging strategic issues.

SMA as domination structure has a potential to change the process of accountability in organisations, which subsequently leads to changes in the symmetry in the distribution of allocative resources (command over objects) and authoritative resources (command over persons). Power is the manager's transformative capacity (Giddens 1984, 15, 33). Thus power in this sense is not a property of the social community (see e.g. Foucault 1977, 1980). Power is not itself a resource, but resources are media through which power is exercised (Giddens 1984, 16). All forms of dependence offer some resources whereby subordinates can influence the activities of their superiors. Giddens (1984) calls this the dialectic of control in social systems.

SMA as legitimation structure (Giddens 1984, 15, 33) creates norms about what the strategic priorities of for instance markets, customers, products, technologies etc are. It may challenge the prevailing idea of important things and legitimate new practices. Other systems may also contest the legitimacy of SMA, both the technical functioning and the relevance of the information it provides. The norms which underpin the actions of managers may be associated with various social systems. If the norms of different actors are

contrasting, SMA may lead to disagreements on the joint actions and future direction of the organisation.

The concept of production and reproduction of social systems differs fundamentally from the concepts of the traditional MA research which either does not recognise the role of individual actors at all or perceives the social systems as entities which are living a life of their own independent from the actors. Even the normative literature has reduced the key actors as marketers of the branded managerial practice (see e.g. Kaplan and Norton 2001). The main motivation to use the theory of structuration from this point of view in this study is its ability to link structure to action in a situation when a specific type of engineering culture and tradition face a threat of discontinuity during a strategy process. The theory of structuration makes the stratified social systems transparent.

1.4 Methodology

1.4.1 The basic assumptions

The theoretical grounds determine much of the ontological and epistemological perspectives of the study. The methodological choice must fit the overall stand of the study. The problem setting of this study is value-laden. SMA as a research issue inherently carries a normative idea of the existence of a concept which is worth studying and developing, and stresses the fact that accounting is an applied discipline (Kasanen et al. 1993; Mattessich 1995). Further, the research question presupposes the central role of a manager in the constitution of organisational practices such as SMA itself and more extensively the corporate praxis. The vague nature of the phenomenon, SMA, and the aim to explain this phenomenon in terms of an analysis of the conduct of the individual managers rules out the random sampling of firms and managers. The author admits that the selection of the first case was more or less given, but the selection of the second organisation and manager involved location and identification of a person who is experiencing the adoption and implementation of SMA. Thus the collection of empirical data follows the hermeneutic tradition.

In terms of the structuration theory the study expresses "*double hermeneutics*" (Giddens 1984, 284). The researcher's descriptions of SMA and SMA practices mediate the frames of meaning within which the organisational actors orient their conduct. The researcher has as a field of study phenomena which are already constituted as meaningful. The condition of "entry" to this field is getting to know what actors already know and have

to know, to "go on" in the daily activities of social life (Giddens 1984, 284). Inevitably, the theoretical underpinnings lead to a methodology which emphasises not only participation but conscious intervention.

In the light of the previous discussion the subjectivist perspective on the research problem seems quite natural, but on the contrary to the view of the traditional frameworks (e.g. Burrel & Morgan 1979, Chua 1986), the subjectivist and objectivist approaches do not appear as the opposite ends of a continuum but as adjoining parts of a circle. The methodological aim of the study is to overcome the separation between the subject and the object. The researcher (the subject) becomes a part of the phenomenon (the object) and vice versa. The principal concern is with the understanding of the way which the manager creates, modifies, and interprets the world in the middle of the network of social systems, where the researcher is one of the actors. Pihlanto (2002, 66) points out that researchers conducting action-analytic research have an option to develop managerial constructs and still maintain their commitment to subjectivist ontology, epistemology and voluntaristic assumption of human nature, but adds that this option seems to be the more natural the more the construct includes social, organisatoric and management-philosophical elements. However, SMA constructs do not have subjective value *per se* to the researcher. The aim is to turn the social structures into real objects, machines, products and ultimately means to sustain the community.

This longitudinal two-case study contrasts events in two organisations which are striving for customer-oriented growth and strategic control of new businesses. Contrasting two cases illustrates and explains organisational and human properties which qualify the different outcomes in the development processes of the managerial constructs. The data has been collected by participation in the strategy processes in both organisations. The role of the researcher in the strategy process has been to gather, analyse and communicate strategic information and on this basis to give suggestions for strategic control systems. Thus the study applies the constructive research approach (see Lukka 1991, 1999, 2000; Kasanen et al. 1993; Lukka & Tuomela 1998). The main methods have been participation, participant observation and retrospective semistructured interviews of the key actors. This study emphasises strong intervention and participation in practical development work (see Lewin 1948; Tamminen 1992; Heron 1995, Krim 1995; Kaplan 1998). Like in the traditional interpretative action research, the understanding of social processes emerges from the empirical material. The research notes from the interviews have been aggregated and the central themes have been identified from this material. Unobtrusive means such as official company documents and graduate and post-graduate studies by other researchers have been used for

triangulation purposes. The following subchapters introduce the research approach and the research methods in detail.

1.4.2 Research approach

This study is both empirical and normative. In Figure 3 (Lukka 1991; Kasanen et al. 1993) the constructive research approach (CRA) applied in this study is located in the bottom right-hand corner. The framework originally included conceptual, nomothetical, decision-oriented, and action-oriented approaches, but later Kasanen et al. (1993) added the constructive research approach into the framework. Due to the nature of the research process it also applies the conceptual approach during its early phases, as well as the decision-oriented approach but the basic ontological and epistemological assumptions are defined by its overall relationship to empirical material and its prescriptive statements. The basic anti-positivist assumptions are shared with action-oriented approach, but the core of the CRA is in the strong intervention and in its innovative stance.

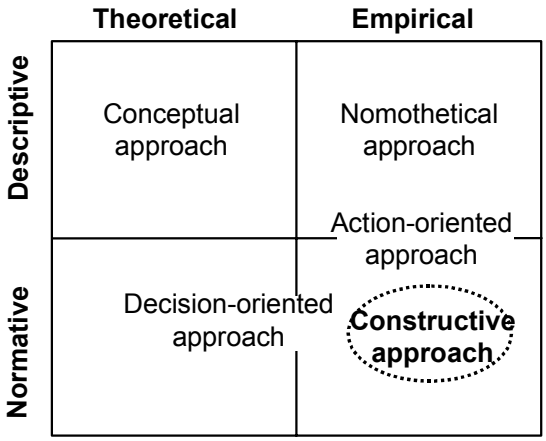


Figure 3 Methodological approaches

The positive accounting theory has been questioned from several philosophical angles. A variety of different scientific approaches have been grouped under one common anti-positivist label. Their ontological and epistemological assumptions differ to varying degrees in their subjectivity from positivist realism. Anti-positivist approaches can among other things be recognised by the following characteristics: All actors shape their own reality, create their own concepts and structures and communicate interactively with

other individuals. Reality exists as a product of human consciousness (see Berger and Luckmann 1966; Searle 1995). Epistemologically the social world of the actors is not separated from their experiences and their reality can be understood only by sharing their views. This means that knowledge is basically personal (see e.g. Pihlanto 1996, 1997).

Figure 4 illustrates the different research modes in the process of the constructive research approach applied in this study. The research process started with the selection of the subject and site. An analysis of the business in question initiated the development process. The research mode during this phase was hermeneutic descriptive, aiming at understanding the research situation. The next phases are characterised by a more functionalist mode. The first step is to produce a construction, system, behavioural pattern or calculus etc. prescribing the ends and related means. The traditional normative research report remains on this prescriptive level giving recommendations for further actions, but the constructive research proceeds to the next active phase, the implementation of the construction which comprises the technical solutions or/and behavioural patterns. The reporting of this phase use the narrative form. The research is finished with an analysis of events during the project and the changes that occurred. This takes, however, some iterative turns between the constructions and normative literature.

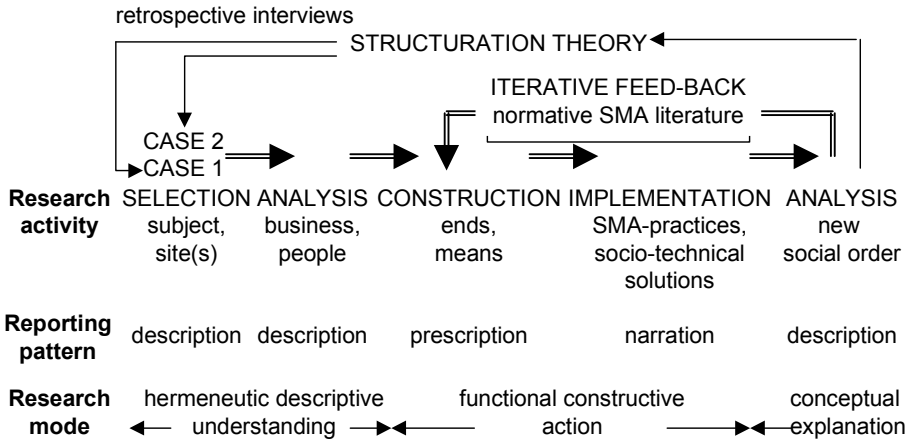


Figure 4 The different modes of constructive research process

The picture is idealistic in the sense that the distinction between different phases is not this clear-cut. The iteration is constant and the researcher moves between the different modes. The method takes advantage of fruitful interaction between observations and theory. The role of the structuration

theory is crucial for the contribution of this study. The social theory initiated the selection of the second research site and reopening of the first case after the licentiate thesis made possible the application and specification of the structuration theory.

Other approaches similar to CRA in emphasising strong intervention and participation in development work are development inquiry, participatory action research and co-operative inquiry (see Lewin 1948; Tamminen 1992; Heron 1995) and innovation-action approach (IAA) (Kaplan 1998). The rest of this subsection concentrates on IAA and CRA, the two approaches that have the closest linkages to this study and to the development of management accounting practices in question. This subsection emphasises the characteristics of these two approaches which have influenced the field research of this study.

Innovation-action research approach

The innovation-action research (Kaplan 1998) engages the scholars in helping the organisations to implement a new idea. The researcher documents limitations in practice. He then identifies a new concept to overcome this limitation. The concept is improved through publication, teaching and active intervention in companies. Through successive implementations the scholars learn about the idea itself and about the conditions for successful implementations. The underlying theory is enhanced by this innovation-action research cycle (see Figure 5). Thus both the implementations and the theory are advanced by the experience of the researcher. The evolution of activity-based costing and balanced scorecard are examples of development processes, where Kaplan and his colleagues have applied this particular form of action research. The role of the researcher is that of an active change agent helping to create a new phenomenon or to change an existing one.

Kaplan actively steered himself and other scholars to field studies during the latter part of the 1980's (Kaplan 1983a, 1983b, 1984, 1986, 1989; Johnson and Kaplan 1987). Eventually his efforts led to research projects in organisations, where scholars tried to influence the course of events through the introduction of new management accounting practices. Based on his experiences he drafted a theory of methodology, the innovation-action approach. The essence of his approach is to pick innovative practices from organisations, develop them and implement them in other organisations, thus learning about the innovative idea itself and about the implementation process (Kaplan 1998).

> *An alternative approach, innovation action research, has scholars actively engaged in helping organisations to implement a new idea. Through such active engagement, the scholars learn not only about the*

> *idea itself and how to improve it, but also about the conditions for successful implementation in organisations. This approach is not easy. The scholars must be able to produce changes in the status quo in organisational design and practices. Many organisations espouse that they desire change and improvement. But almost all organisations actually practice a theory-in-use that is quite hostile to change. In attempting to implement a new method of managing, the scholars face an uphill battle, attempting to instil more order and rationality into processes which through past experience and inertia have been running on automatic for many years. Organisations have also developed considerable (if implicit) skills to diffuse the energy and direction from new initiatives (Kaplan 1998, 90).*

Kaplan's approach is very tightly connected to technical innovations and their diffusion, mainly to activity-based costing and balanced scorecard (Cooper 1988a, 1988b, 1989a, 1989b; Cooper and Kaplan 1988; Kaplan and Norton 1993, 1996). Kaplan has placed the gap between management accounting theory and practice in a historical context. For him the answer to lost relevance is the diffusion of new techniques which have a positive financial impact. As an example, balanced scorecard rests on an idea of a causal relationship between customer, process, learning and financial perspective. The static ultimate goal is to influence profitability (Kaplan and Norton 1996b, 30). The approach bypasses interesting subjects of deeper social analysis like change resistance as "an environment" to be "manipulated" (Kaplan 1998, 91). The problem is the neglect of social dimensions in development processes. Kaplan is aiming at *a theory,* but

> *The theory is an initial attempt to formalise a theory of this mode of knowledge creation that I hope will be clarified and enhanced through ongoing dialogue and debate. The theory is admittedly incomplete since a critical ingredient- evaluation of the emerging theory –remains unclear to me at this time (Kaplan 1998, 92).*

The name of the approach, "innovation–action", is derived not so much from the act of innovation, but from the research cycle, in which the theory is first developed from a so called base case and then its feasibility is examined. Both the theory and its implementation are advanced by experiences through successive implementations, documentation and teaching. Figure 5 illustrates the innovation-action research cycle (Kaplan 1998, 98).

The research work addressing activity-based costing, its structure and diffusion among organisations, is a good example of the researchers' roles during the different phases of development. ABC is a conceptualised and synthesised result of the researchers' field visits, initiated mainly by Cooper and Kaplan (Cooper 1988, 1989; Cooper and Kaplan 1988). This is an

innovative phase (Kaplan 1998). The second phase, the spread of ABC, is documented in many basic research surveys, like in the UK by Innes and Mitchell (1995) or in the USA by Green and Aminkhienan (1992). Frequent surveys also give a systematic picture of the adoption speed of ABC-techniques, as in surveys made in Finland by Lukka and Granlund (1996), Laitinen (1995) and Malmi (1997a). These surveys give valuable insights into general trends in practice, but lack the analysis of detailed properties and purposes of the applications. The theoretical and practical contribution is thus limited. Finally, when a technical innovation matures, the analysis of individual cases and general contingency type of research starts. The success and failure stories, descriptions of long run consequences and specification of motives and variables that drive the implementation of new techniques emerge (Shields 1995; Gosselin 1997; Innes and Norris 1997; Vehmanen 1999). Typically, critical research appears at this phase offering ideologically laden and socially oriented critique (about ABC research genres see Lukka & Granlund 2002).

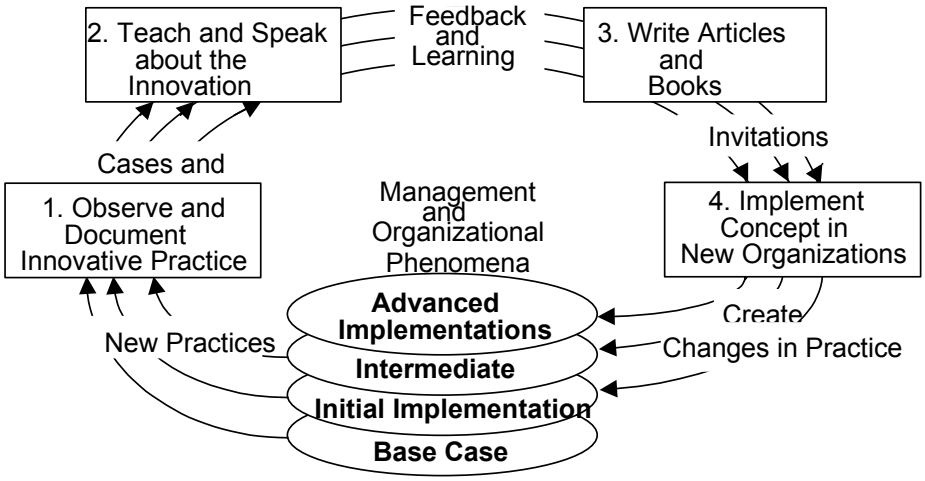


Figure 5 Innovation-action research cycle

The innovation-action research cycle is for the most part a diffusion process of existing practices picked up from organisations and it requires an active imposition of (implicit) values. However, Kaplan's framework gives insights into the more general diffusion process of the new management accounting practices the researcher is part of. The role of active facilitator in the actual case contexts is more appropriate than the role of innovator (Kasanen et al. 1993, 247; see also Lukka 2000, 119 footnote). Even though the applications are innovative, the development process is profound co-operative teamwork

(Lukka 2000, 118) requiring the role of facilitator or catalyst from the researcher.

Constructive research approach

The constructive research approach (Kasanen et al. 1991, 1993; Lukka and Tuomela 1998; Lukka 1999; 2000) means problem-solving in a real life organisational setting through the construction of a management system ranging from purely technical solutions to socio-technical action patterns. Management accounting is an applied science of practical managerial constructs which includes single measures such as ROI or complex, integrated control systems including performance measurement, incentives and interactive co-ordination. These constructs and ways to perform create a new social reality. The empirical intervention is strong and the researcher participates in the development process as an active team-member. The scientific contribution is the theory linkage which may be remarkable even if the construction does not work. The constructive approach entails implementation and follow-up of an innovation, thus exceeding even the prescriptions of the more traditional normative case studies.

Lukka (1991) became aware of the missing empirical-normative methodology while epistemologically mapping accounting research approaches. Initially he called this missing type a hybrid combination of decision-oriented and action-analytic approaches. A footnote mentions *constructive* research, but only refers to its problematic scientific status. Since 1991 the constructive approach has emerged among the established nomothetical, action-oriented and decision-oriented methodologies. The initial idea has matured and methodological features have shaped up through applications and articles (Lukka 1991; Kasanen et al. 1991, 1993; Lukka and Tuomela 1998; Lukka 1999, 2000; Labro & Tuomela 2003). There are some examples of postgraduate level research conducted by applying the constructive approach more or less in its orthodox form[1], as well as several M.Sc. theses.

Lukka co-authored in Kasanen et al. (1993, 246), in which constructive research was described as a process, consisting of the following distinctive phases: 1) Finding a practically relevant problem that has research potential. 2) Obtaining a general and comprehensive understanding of the topic. 3) Innovating, i.e. constructing a solution idea. 4) Demonstrating that the solution works. 5) Showing the theoretical connections and the research contribution of

[1] Example of the applications of constructive research approach are doctoral dissertations by Vaso (1998) in education, Lainema (1996) in management and organisation, Carral Pavon (2002) in strategic systems development, and the licentiate theses by Puolamäki (1998) and by Tuomela (2000) in management accounting.

the solution concept. 6) Examination of the scope of the applicability of the solution. The writers emphasise the innovation phase and especially the researcher's key role in producing the solution to the business problem in question. When it comes to the nature of the constructive approach, the authors state:

> *...One, constructive research may be either quantitative or qualitative or both. Two, constructive research may be distinguished from positive accounting research: being inherently goal-directed problem solving activity, constructive research is explicitly normative by its nature. Three, constructive research typically applies the case-method. As to this third point, it is important to notice that, as such, the notion of "case study" may refer to descriptive as well as to normative research. The constructive approach represents the latter type of studies.*

The constructive research may be viewed as a type of applied studies which aims at technical norms. In general terms the technical norms are of the form of practical reasoning: "To attain end E, under circumstances C, choose means M". This type of norm is value-laden and it implies truth only conditionally (see Kasanen et al. 1993, 253). Conceptualisation of normative logic can be traced back to Aristotle who distinguished practical syllogisms from theoretical ones. Aristotle relates practical syllogisms tightly to action. Von Wright (1983) calls this type of logical arguments practical inference. Mattessich (1978, 129 and 192) uses the term "instrumental reasoning" instead of practical reasoning and pinpoints the assumed exclusion of all non-deductive inferences in von Wright's definition. Mattessich gives us a definition of instrumental reasoning:

> *Instrumental reasoning is any process of* deductive or non-deductive *inferences dealing with arguments* containing premises that relate means to ends leading to conclusions about pertinent actions *(Mattessich 1978, 129; italics by Mattessich).*

Instrumental reasoning covers first both imperative (commands) and deontic arguments and secondly deductive and inductive inference, leaving out all assertoric statements which do not give an argument for an action for the sake of an end (Mattessich 1978, 1995).

Hypotheses which state that an end is attained by the specific means, can be derived from the inferences. Depending on the (deductive, inductive, imperative, deontic) nature of the inference, the attainment to be tested is absolutely positive, probable, or also other means to achieve an end might exist. The confirmation that a given hypothesis is true is linked to action. It is made true by the actors (James 1955, 133; see also Lukka 2000, 116). The rate

of success moves along an infinite scale. Usually *any* means that work are valuable in the process towards the goals, but the *cost* is usually the constraining factor.

Normative inductive inference attaches probability to both argument and conclusion. Inductive logic is thus vague by nature and the relation between evidence and conclusion is looser than in deduction. The complexity of the logic increases when we see probability as a subjective concept. If P gains something by attaining goal G, there is a personal point of utility when the rational degree of probability is abandoned. A person trades probability for utility or vice versa. Sometimes high gain is replaced with a smaller gain of more certainty. This is typical for risk averse "comfort-loving persons". The risk taking "gamblers" trade certainty against a higher amount of utility. Though stereotypic, these concepts should be borne in mind while studying the logic behind human behaviour (Mattessich 1978, 189). Individual psychological characters explain the existence or non-existence of imperative to action. Another behaviourist feature is different nuances of goal orientation in different parts and on different levels of an organisation. Sometimes the headquarter imperatives in a business unit can turn into deontic inference which a researcher interprets as an assertoric inference. To make this rather long theoretical argument short we can state that the managerial constructs expressed as technical norms in form of practical reasoning are inherently related to managerial values.

Mattessich (1978, 1995) presents a prescriptive (imperative) sentence of the type: *To attain end E, under circumstances C, choose means M.* These means-end relations are instrumental hypotheses. Their characteristic features are: a) They are goal-oriented. b) They are highly efficiency responsive (i.e. cost/benefit and attainment sensitive). c) Their acceptance criteria are based on the two preceding characteristics. d) Their degree of generality is limited in comparison to law statements. e) They are predominantly decision or action oriented (Mattessich 1995). An instrumental form of hypothesis is universal in business control. Through these imperatives, plans are transformed into action by hierarchical deployment. The essential issue is the possible diversity of goals and the means to achieve them[2].

[2] Typical constructive research problem is as follows: *"to construct a consistent performance measurement system framework that will support effective strategic management at the case firm*." The corresponding instrumental hypothesis based on inductive inference is: "*a practical "test" of combining two normative schools of thought: the agenda of customer focus and the claimed necessity of strategic control based on new strategic performance measures. Current wisdom suggests that customer focus should be adopted in order to achieve financial success. In similar vein, strategic integrated performance measurement systems have been called upon to facilitate long term financial excellence..."* (extracts from Tuomela 2000). Another example states the objective of the study: *"...to develop a normative framework for multilevel design of diagnostic control systems."* The testing of

Kasanen et al. state that the validity of the solution in its strongest form depends on the ability of the construction to produce financial results in several business units. This is called a strong market test by the authors (Kasanen et al. 1993, 253). In other words the main value is wealth maximisation. Although they distance the constructive approach clearly from the positivist school, all their examples[3] of management constructions were purely technical. According to the initial ideas of the constructive approach the researcher is foremost an innovator and secondly a change agent responsible for implementing his innovation. The constructive approach maintains a seemingly objective role in research by reporting the values and generally the initial assumptions in the research project (Lukka 1999, 2000).

Regarding the nature of constructions and the role of the researcher the concept of constructive research approach has been modified essentially. Lukka (2000) also puts more emphasis on the theory linkages.

> *The constructions which are in the core of the constructive approach, can be almost of whatever type, ranging from simple models in merely technical terms to complex management systems designs covering both technical and socio-technical elements to manifestations of new ways of approaching and doing things in organisation. (Lukka 2000, 115)*

> *The development of the innovative construction should be seen as a profound co-operative teamwork into which both practitioners and the researcher contribute, based on the input information of both practical and theoretical origin. (Lukka, 2000, 118)*

This means less emphasis on the innovative role of the scholar and more on the social, team-member role. The concept of construction has widened to include also other than a purely technical type of innovative solution to managerial problems. But still the distinctive feature of the constructive research is its innovative nature (Lukka 2000, 114).

Theories are refined by changing prior beliefs of the means-ends relations or the positive structural or process relationships that were considered to hold before the study was conducted. Well-managed fieldwork can give evidence on an ex ante theory even if the construction fails to work. Thus it should be possible to even test theories in a constructive study. Practical problems may

---

instrumental hypotheses is expressed: *"...we are given the opportunity to practically apply our a priori design theory."* (extracts from de Haas & Kleingeld 1999).

[3] The managerial constructions Kasanen et al. (1993, 248-249) mention as examples are: variance analysis in standard costing, ROI-measure in profit-centre accounting, DCF-techniques in capital budgeting, ABC and zero-based budgeting.

emerge in scientifically unexplored areas. In these cases the constructive approach may contribute new theoretical ideas (Lukka 2000.)

The author admits that this research does not fulfil the strict demands of Kasanen et. al (1993, 247) concerning the novelty and wide applicability of the managerial innovations which are the idealistic results of constructive research. On the contrary to the notion, that "*...we refer to novelty of the solution, not only for the decision-maker in question (e.g. a manager, business unit, firm, other type of organisation) but also more widely"*, the primary focus in this study has been on the individual manager and his perception of the business problem. The demands of the managers were extremely practical, to apply innovatively existing SMA doctrines to their own organisation but in such a form which fits best the conditions of the organisation. This thesis will later elaborate the nature of innovation and novelty in this type of research.

However, the process in this study is in line with the principles of constructive research approach emphasising the socio-technical aspects of the development processes and bringing forward the role of social theory in the analysis of the consequences of these processes. Existing research in CRA genre is mainly technically focused and it lacks links to the deeper social reality. At the moment there are no research reports based on the constructive research approach with an analysis or synthesis founded on a valid social theory. The research at hand represents the first attempt to use social theory to explain and understand the events during a managerial systems development process under constructive research. This study owes also to Kaplan's methodological concept of innovation-action approach but avoids its dominating rule of owner's wealth maximisation and its manipulative nature.

The conditional normative nature of the study has three main practical implications to the conduct of the study:

> *1. The range of phenomena studied is broad and the theory base used and contributed to includes social theory* (see Mattessich 1995, 52-53).

The basic question of validity is critical in normative research because of the variety of phenomena in a research context, such as physical, social and psychological. Different levels of reality and its phenomena exist. Many of the concepts used in management accounting are not real in the sense that they could be connected to real objects such as physical things and properties. Common concepts such as return on investment and residual income are fiction even in the realm of social reality because they are compiled of different elements based on arbitrary valuation rules. However, social reality embraces concepts based on ownership claim such as stockholder's equity which is different from the physical reality of the physical assets. Although the more abstract social phenomena are not directly measurable, they make the case more understandable and valid. Focusing on technicalities and concrete

phenomena maintains the reliability, but may cause a loss in the validity of the study.

> *2. The values of the key actors and the researcher are explicitly expressed during the research process (see Mattessich 1995, 190).*

While participating in the everyday life of an organisation trying to create commitment to change, it is impossible for a researcher to overlook the different values the actors have, the researcher's own values among others. The values that management accounting researchers face are different in their substance and significance and sometimes they may build up tensions. The members of the organisation do not always agree on priority order of values such as profit sharing, personal rights, equal access to accounting information, customer needs, independence, technological advancement etc. Using a predetermined technical and normative theory in interpreting events on the research site makes the process easier, but this easiness might be gained at the expense of the richness of intriguing and contradictory issues. Sometimes researchers experience amazing events when the basic assumptions of the most important and critical issues change during the research processes (see e.g. Tuomela 1999, 2000; Kasurinen 1999, 2002a; Puolamäki 1998). Because of the strong intervention, it is important that the participating observer is fully aware of his own standing in relation to other actors. This means that he is prepared to discuss openly the assumptions and beliefs adopted in the process.

> *3. The researcher is autonomic and does not impose by force his own or any other actor's values on the organisation (see Mattessich 1995, 197).*

> *The applied scientist is obliged to submit the relevant range of objectives to the user and inform him or her about the means for reaching each of those objectives as well as its consequences. Thus the academic (or, in his or her place, the practitioner) will offer a palette of accounting models, from which one can choose according to one's information needs. Based on such stipulation, or in anticipation of it, the academic may recommend certain strategies, but* he or she must not impose any objective *upon the user (Mattessich 1995, 197).*

The researcher has a dual role in the organisation. Firstly, the researcher is (or has the intention to become) an equal member of the management or project team. Sometimes this participation can remind of consultation work (Kasanen et al. 1993; Lukka and Tuomela 1998), but basically consultation work is always based on specific assessment without any scientific ambitions. On the other hand, consultation work at its best may come close to conditional-normative scientific work, but a consultant is never an equal

member of the organisation, nor is this the intention. Secondly, the researcher is openly a researcher, exposing his scientific intentions and as a participating observer also observing himself as an actor among others. The researcher must be open and willing to shift his paradigmatic standpoint to catch the complexity of the situation and maintain his objectivity and autonomy. Imposing the personal values of the researcher on the organisation invalidates the research process.

Constructions are implemented in a growing number of organisations. During this diffusion process there is a constant need for information about the problems and about the ways to avoid problems and failures, but avoiding problems does not mean that by a strong intervention an organisation is changed into a laboratory, unnatural circumstances are created and a temporary phenomenon is forced to appear.

To be scientific a research must meet the criteria of objectivity, criticalness, autonomy and progressiveness (Niiniluoto 1984; see also Lukka 2000, 122). Although the construction process is value-laden and the priorities of dominant groups play a significant role, the explication of values meets the criteria of objectivity. The detailed narratives and credible reporting combined with the independence of the researcher are connected with the criteria of criticalness and autonomy. In this sense the emphasis on socio-technical aspects of the development process in analysis and reporting contribute to the validity of the study. The focus on purely technical aspects may leave out essential social phenomena connected with the construction process. A progressive research increases our knowledge, opens up new possibilities for further research and contributes to the theoretical thinking.

1.4.3 Methods

The selection of the first case organisation, Outokumpu Drawn Copper Products Division (DCPD), was a sum of fortunate coincidences, where the scientific interests of the researcher working as a controller in the division met the practical needs of the new division manager. Also in the second case, KCI Plant Services (KCIPS), the researcher was involved in the business, as a company secretary in one of the business units, years before the actual research process. The site selection in the second case was taking an advantage of momentum which offered a post as an advisor for the division manager during the strategy process. There were also other case options available which, however, were abandoned in the early phase of the study because they seemed to miss the prerequisites for the studied phenomena. The

following list summarises the common features of the case organisations which influenced the site selection:

- The organisation was facing a major strategic change.
- The conditions for producing SMA information were promising because an influential business area and corporate headquarters required formal information to support their decision-making. Large size elaborated structure and mature industry were also conditions that predispose strategic planning and control.
- The organisation was led by a newly recruited manager who had an elementary role in the formulation of the strategy and in the development of the strategic control systems.

The concepts of field and case study are overlapping. As a concept field study may involve single or multiple in-depth case studies but also large sample, multiple site inquiries or time series research (Kaplan 1998, 89). Case studies combine several data collection methods and the evidence may be qualitative or quantitative or both (Yin 1986). In their relation to theory development, case studies take four distinct forms: 1) The theory discovery case maps novel and inadequately explained phenomena. 2) The theory illustration case demonstrates the capacity to illuminate some previously unappreciated aspect of the management accounting practice. 3) The theory specification case refines an underspecified theory in order to make it amenable to statistical test or critical case test. 4) The theory refutation case falsifies or refutes a well-specified theory (Keating 1995). Constructive research falls into the category of single or multiple in-depth case studies, and it is inclined typically to be a theory refinement case (Lukka 2000, 120-121). This study utilises the structuration theory to illustrate the previously unexplored aspects of SMA.

The empirical data was derived mainly by participatory observation during the development processes. The researcher also had a full access to the minutes of the meetings, official financial reports, budgets, long term plans etc. In the first case the researcher was a full-time employee of the company since the beginning of the 90's first as a financial manager of the local company in Pori and later as a controller in the division which became the research site. The controller's job meant almost total concentration on the issues under research. A diary was used to record all appointments and their purposes for later use. The reporting was done after the working hours, during the week-ends and general holiday seasons. The data from the second case was obtained mainly by participation, taking notes and keeping intensive records during the strategy meetings and preparatory discussions. Years as a company secretary in one of the units had provided a wealth of background information and documents about the business in question. The researcher,

working now as a senior lecturer, had a possibility to use his working hours also for research purposes, which allowed the writing of this thesis.

MBA, graduate and post-graduate studies sharing the same research sites were used for triangulation purposes. Semistructured interviews were conducted during the starting phase in the second case and later in the final phase in both companies. The interviewees, dates, and subjects of the interviews are listed in appendix 1.

1.5 The innovative nature of SMA constructs

The innovative phase, i.e. the construction of a solution to a business problem, is the core element of a successful constructive study (Kasanen et al. 1993, 247). However, the descriptions of both CRA and IAA do not explicitly define the concept of innovation or the innovative process. Kaplan (1998, 99) uses ABC as an example which also asses as a result of constructive research (Kasanen et al. 1993, 246) even if the idea of the researcher was a current practice in more than one organisation. In this sense the innovation action research cycle is more of a model of diffusion than innovation (see also Lukka 2000, 119 footnote). Naturally, this does not make Kaplan's contribution to theoretical design, case descriptions, and wide implementation (which may be innovative as well) less admirable, but shows the vagueness of the innovation concept in the methodological discussion. Labro & Tuomela (2003, 427) point out the importance of teamwork during the innovative phase of the constructive study. The social interaction in empirical setting distinguishes CRA from the creative decision-oriented research approach, which is more researcher- and theory-driven. The methodology section of this thesis presented published constructive research and concluded their inclination to technical accounting solutions to business problems (e.g. Puolamäki 1998; Tuomela 2000) which had a close resemblance to prior solutions in similar situations. Surely these constructs do not meet the idealistic demands of novelty and contribution to academic community, but merely solve or try to solve the problem locally, which is the weakest form of validation in constructive research. However, the applications, processes and contexts may be innovative and inform the scientific community.

So far, in the prior constructive research the results of the study, the constructs, have been in focus and the market-based validations are based on the concept of innovation diffusion, i.e. managerial constructions are viewed as products competing in the market of solution ideas. Market-based validations has the following three levels:

Weak market test: Has any manager responsible for the financial results of his or her business unit been willing to apply the construction in question in his or her actual decision-making? *Semi-strong market test*: Has the construction become widely adopted by companies? *Strong market test*: Have the business units applying the construction systematically produced better financial results than those which are not using it. (Kasanen et al. 1993, 253.) Naturally, only the weak market test validates the construction locally. In the diffusion process the development in the original site becomes of secondary priority.

This study argues for the focus on the process of knowledge creation, i.e. the process of construction and social functioning of particular SMA constructs and emphasises that the construction process is fundamental for the innovation of products, markets, and systems. The aim in the strategy processes was not the technical SMA solution or the knowledge it produced *per se*, but the contribution SMA could make to business in real terms of real objects. The members of the case organisations were not interested in engaging in a project which aimed at the development of a construct for wide diffusion. The issue was not even worth a serious discussion. The aim with the construct was just to pass the weak market test in terms of market-based validation. Likewise, Kasanen et al. (1993) have pointed out the confidentiality in constructive research as one of the reasons for the scarcity of the approach. Obviously, the discussion above does not oppose generally to the original validation concepts of CRA but suggests a socially aware alternative to the prior ways of conducting and reporting of constructive research.

The basic ontological assumption in this thesis is that SMA constructs are expressions of the social reality and that knowledge is created by individuals and transformed into knowledge at the organisational level in the construction process or in the interactive usage of actual SMA practices. Knowledge is created and expanded through social interaction between tacit and explicit knowledge. Nonaka and Takeuchi (1995) postulate four different epistemological modes of knowledge conversion. 1) *Socialisation* is a process of sharing experiences and thereby creating tacit knowledge such as shared mental models and technical skills. 2) *Externalisation* is a process of articulating tacit knowledge into explicit concepts taking the shape of metaphors, analogies, concepts, hypotheses or models. 3) *Combination* is a process of systemising concepts into a knowledge system involving combination of different bodies of explicit knowledge. Reconfiguration of existing information through sorting, adding, combining, and categorising of explicit knowledge can lead to new knowledge. 4) *Internalisation* is a process of embodying explicit knowledge into tacit knowledge. Internalisation is

closely related to learning by doing. When experiences through socialisation, externalisation, and combination are internalised into individuals' tacit knowledge bases in the form of shared mental models or technical know-how, they are assumed to become a valuable asset. Knowledge creation is a dynamic innovation fuelling process which produces two different kinds of knowledge spirals. The first spiral is on the epistemological level across the four modes of knowledge creation and the second spiral takes place at the ontological dimension where individual knowledge transforms into organisational knowledge.

To sum up the discussion in this subsection, in this thesis the SMA constructs are continuous innovative processes of knowledge creation. When a SMA construct loses its link to the individual it becomes organisational practice but continues its evolution in interaction. This thesis examines these processes within the framework of its aims and the structuration theory.

1.6 The structure of the research report

Figure 6 illustrates the structure of the study, condensed objectives by chapter and the main contentents of the chapter in relation to the empirical material, SMA literature and structuration theory.

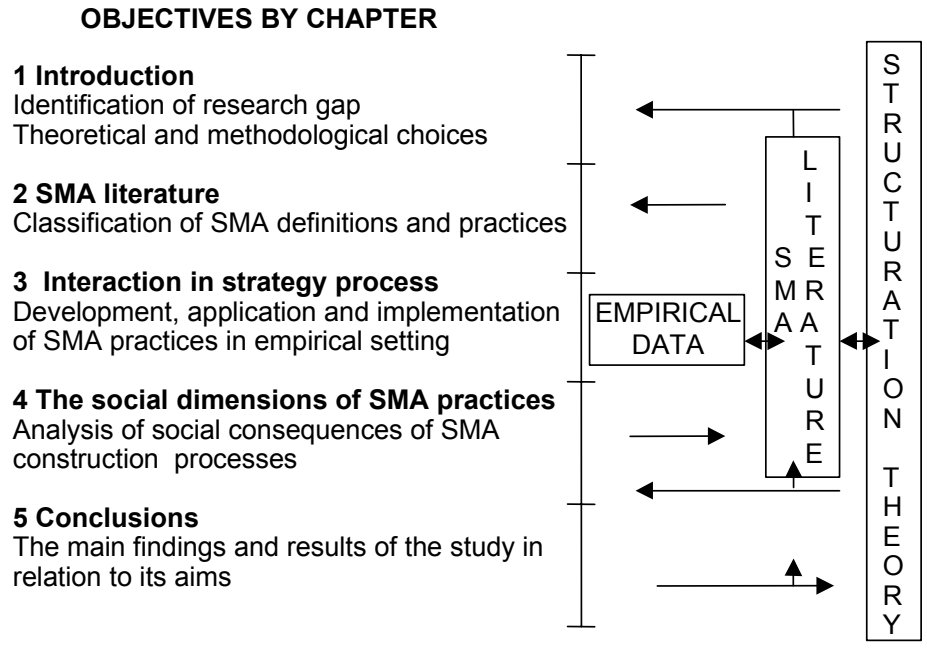


Figure 6 The structure of the research report

This thesis begins with an introductory chapter which presents the subject, purpose, theoretical foundations and methodology of the study. The vague concepts of SMA, unclear role of managers and research finding of unintended consequenses of implementation provide research potential. The purpose of the study is to clarify the role of SMA and SMA practices in the constitution of the organisational praxis. The chapter describes the key elements of the structuration theory which provides the analytical tools to explore the constitution of social order in two strategy processes. The introduction also argues for the use of the constructive research approach as an appropriate means to acquiring empirical data for this type of research.

Chapter 2 explores the prior literature on SMA and introduces a typology of SMA concepts which is linked to the strategy process context. It also provides normative arguments for those SMA practices which are the most relevant in the case settings and gives empirical evidence about SMA and SMA practices.

Chapter 3 presents, in a narrative form, the development of SMA practices in the context of two strategy formulation processes initiated by the companies' headquarters and carried out by newly recruited general managers who each have the common goal to achieve strategic control over the operations under their responsibility. This chapter focuses on describing the managerial constructs and their cores of explicit SMA information. Because constructive management accounting research is concerned with influencing and reporting the development of events on the site, the narrative style is well fitted for reporting sequentially the strategizing on the personal and organisational level[4] catching the richness of the original setting. The final part of the chapter relates the empirical findings to the normative SMA literature.

Chapter 4 deepens the analysis to the social dimensions of SMA constructs and examines the process of structuration of a new strategy and defines the different roles of SMA in these processes and emphasises the central function of the individual manager in the intersection of different social systems producing and reproducing the social structures of the organisation. The final chapter concludes the study and summarises the main findings of the research and considers the limitations of the study.

[4] Narrative knowledge and narrative outputs are rare in management accounting research, but their potential is not disputed (Pentland 1999; Llewellyn 1998; Czarniawska-Joerges 1995).

2 STRATEGIC MANAGEMENT ACCOUNTING IN LITERATURE

2.1 Strategy schools

Any definition or concept of management accounting for strategic purposes includes explicitly or implicitly an opinion of the nature of the strategy process and substance. This subchapter explores the relevant strategy schools and the role of management accounting in these frameworks.

The most prominent business strategy theorists are Igor Ansoff, Michael Porter and Henry Mintzberg who have given the necessary theoretical substance to the practical strategy work in companies (Mintzberg and Lampel 1999). These theorists stand all for their prescriptive schools of thought. Mintzberg (Mintzberg 1990, 1994; Mintzberg and Lampel, 1999) classifies prescriptive schools of thought on strategy formation into three groups: design, planning and analytical. The design school is better known for its SWOT tool, identifying internal strengths and weaknesses, and external opportunities and threats. The planning school (Ansoff 1988) shares most of the design school's premises but relies more on formal procedures of planning in creating a strategy, and it concentrates more on the process than on the substance of strategies. The analytical, or better known as the positioning school (Porter 1980), on the other hand, focuses on the content of the strategies. Typical methods of the positioning school are matrices like BCG (Boston Consulting Group) growth-share-matrix.

Besides these three schools of thought there are several other strategy schools. Typically, a formal strategy process in business organisations uses the most well-known practices from the different schools in the different phases of the strategy process. A significant descriptive school is the learning school which stresses the incremental nature of strategy process. The learning school claims that strategies emerge in organisations through simultaneous formulation and implementation (Mintzberg 1994; Mintzberg and Lampel 1999). Other descriptive schools are for example entrepreneurial, cognitive, power, cultural, environmental (Mintzberg et al. 1998; Mintzberg and Lampel 1999). For a researcher seeking for explanations to human behaviour in organisations the cultural school widens the narrow perspective of prescriptive schools.

Companies which apply the annual strategic planning cycle combine the principles of the positioning school and the planning school. Federation of Finnish Metal, Engineering and Electrotechnical Industries, FIMET, produced TOTI training material on business management. TOTI material has been used in Finnish industry as a tool in strategic business development from the early 80's until today. The material has evolved through years but the framework still draws upon the teachings of the positioning school and planning school. The material has become internationally known through the internationalisation of Finnish companies. Translation into English was made 1993. The cost of the translation was subsidised by the Finnish companies Kone corporation and Outokumpu Technology which both had close linkages to the case organisations. Their contribution to the institutionalisation of strategic planning is an evidence of the historically strong status of strategic planning in the case contexts. The project was done together with International Affairs Division of the Finnish Ministry of Trade and Industry (TOTI^2 1993). TOTI^2 material consists of four parts: 1. Strategic management, 2. Analyses as a tool of strategic management, 3. Creating a competitive strategy, 4. People as implementers of strategy. The workbook provides numerous illustrations, figures and practical examples to support the learning process. The aim is to learn how a strategy is made concrete. This material is a standard of formal strategic planning in the minds of business unit managers and headquarter staff in many Finnish industrial companies.

The design school places primary emphasis on the appraisals of the external and internal situations, the former uncovering threats and opportunities in the environment, the latter revealing strengths and weaknesses of the organisation. This so called SWOT tool is the centerpiece of most standard textbooks. In strategy making two factors are important. The first is managerial values, the beliefs and preferences of those who formally lead the organisation, and the second is social responsibility, the ethics of the society in which the organisation functions. After the creative act of generating strategies the next step is to evaluate the different alternatives and select one which is implemented (Mintzberg et al. 1998.)

The planning school (Ansoff 1988; SMA and planning school Ward 1992, 15-32) predominated from the beginning of the 1970s until the late 1980s and in spite of many other competing perspectives it continues to be an important source of advice for practitioners. Ansoff's ideas are characterised by formality and detailed processes. Laborious techniques strengthen the role of administrative personnel in strategic planning. Headquarter staff planners are the key actors and the management accounting information is an important part of both the input and output of the strategic planning. The core of

strategic management accounting information is the strategic budget which includes (Ansoff 1988, 194):

1. Investment plans by strategic business area (SBA), covering product and market development budgets.
2. Addition of related SBAs through geographic expansion.
3. Addition of new SBAs and divestment of undesirable ones.

Objective setting and competitive analysis require management accounting specially structured and categorised for strategic purposes.

During the years a multitude of planning models have evolved and every company which has a formal strategic planning routine, has an application of its own. Still the basic idea is to divide the process into distinctive phases placing the analysis of external opportunities and threats, and internal strengths and weaknesses into the beginning, then set the goals, do the planning job, implement the plans, and finally control the outcomes. An important part of the process is the overall scheduling of the process into annual routines.

Mintzberg (1994) draws upon various studies and concludes that strategic planning has real pitfalls and fundamental fallacies. Planning does not contribute to the commitment, plans are inflexible and do not promote change. Planning is not an objective but a political process and planning just gives an illusion of control. Assumptions of predetermination of future, detachment of strategy from operations and formalisation of strategy processes are still prevailing fallacies. *"In effect, the strategy making process, whether its strategies are formulated deliberately or just form emergently, must be seen as an impenetrable 'black box' for planning as well as for planners, around which, rather than inside of which they work."* (Mintzberg 1994, 331) He explains the existing planning procedures by claiming that organisations engage in formal planning, not to create strategies but to program the strategies they already have, that is, to elaborate and operationalise their consequences formally (Mintzberg 1994, 333). There are some conditions in organisations that seem most favourable to strategic programming. Environmental stability, industrial maturity, capital intensity, large size, elaborated structure, tightly coupled operations, simple operations and external control are conditions that promote strategic planning (Mintzberg 1994, 342-350). These organisations Mintzberg calls machine organisations (Mintzberg 1994, 397). The features of machine organisation characterise more or less also the case organisations in this study, which implies the pervasiveness of the formal planning.

The positioning school gained ground towards the late 1980s mainly through Michael Porter's efforts (Porter 1980; SMA and positioning school Ward 1992, 33-55; Wilson 1955, 174-183; SMA and value chain Shank &

Govindarajan 1989). The strategic positioning of companies and industries is based on deep and detailed analysis of distinctive situations. The strategy work is mainly an analysis of competitors' actions and conscious choice of a generic strategy among three possibilities: overall cost leadership, differentiation and focus. The positioning school introduced the concept of value chain and strategic groups. The methods of analysis include also portfolio techniques. The exhaustive analysis is not possible without accounting techniques especially designed for positioning purposes. The Porter matrix depicts the generic strategy of different businesses.

Porter (1980) introduced a typology of three generic strategies:

1. *Overall cost leadership* strategy aims at above-average performance in its industry. The low cost position translates into higher returns than competitors with equivalent or higher prices.

2. In *differentiation strategy* a firm seeks to be unique along some dimensions that are valued by customers. A differentiator must always seek differentiating in attributes that lead to a price premium greater than the extra cost.

3. *Focus* as a strategy has two variants. In cost focus a firm seeks a cost advantage in its target segment, while in differentiation focus a firm seeks differentiation in its target segment. The strategy rests on the choice of a narrow competitive scope within an industry.

A firm that fails to achieve any of the strategies above possesses no competitive advantage. Their position is often a manifestation of the firm's unwillingness to make choices about how to compete. The theory states that, if the firm fails to develop a clear strategy and gets stuck in the middle, it is in a extremely poor situation. (Porter 1980.)

The positioning school is known for its matrix-tools which were developed by consulting companies. Boston Consulting Group (BCG) was among the first consulting firms which had strategy in focus. They contributed to the positioning school with experience curve and growth-market share –matrix, better known as BCG-matrix. The normative idea was that a company should have a portfolio of products with different market shares and growth rates and it should seek a balance between high-growth / high-share products (stars) and low-growth / high share products (cows). The latter creates excess cash flow which is invested in high-growth / low-share products (question marks) which have the potential to become future cash-cows. Low-growth / low-share products (dogs) are worthless and the company should exit these businesses. (see Hofer and Schendel 1994.)

General Electric developed the business position assessment matrix. The pie slices reflect each business's market share, the size of each circle reflects the size of the total market and the position of the circle shows the

attractiveness and competitive position of the business. This matrix predicts the position of the businesses and raises contradictory strategic issues. (Hofer and Schendel 1994.) General Electric initiated the development of matrices which the consultants diffused. PIMS data base became a product itself. PIMS stands for Profit Impact of Market Strategies, a data base which identified several strategy variables such as investment intensity, market position, quality etc. which were used to forecast profit, return on capital and market share. Firms could pay a fee, provide data and in return compare their position with a sample of other companies. All these positioning methods were sold to large diversified companies which could afford the high consulting fees and which had the necessary staff to provide the data for these purposes (about PIMS see Buzzell & Gale 1987; SMA and PIMS Wilson 1995, 180-183).

The grand idea of the positioning school was to look forward and to formulate strategies but in practice the contribution of the positioning school has been the conduct of strategic analyses in the support of strategy process. Mintzberg (1994; see also Mintzberg et al. 1998, 112) calls this grand idea a grand fallacy. As he claims, no one has ever developed a strategy through analytical technique. Porter (1996) responded to his critics and linked operational effectiveness and strategic positioning with the productivity frontier which is constantly pushed forward by technical advancement. The core of his idea is that operational effectiveness is not enough, a company must find a strategic position which sustains the business.

Despite the general awareness of the fallacies in the most classical approaches to strategy making they prevail in the business development agendas of big diversified companies. The explanation may be that these tools are effective in communicating the existing strategy to every part of the company. They can even create commitment in joint efforts to produce the needed information and filling in all the matrices. Also in cases when executives in diversified companies perceive a loss of control over emerging strategies in business units these tools are effective in bringing them under staff scrutiny and later for wider diffusion. (Mintzberg 1995.) The essential difference between strategy formation and strategy formulation is that a precondition of strategy formulation is the existence of a long-term action pattern, i.e. strategy. The rationale in strategy formulation is to document and formalise the action pattern and to apply it more efficiently or more widely in the company. At its best strategy formulation makes only an incremental addition to the actual substance of the emergent strategy.

Mintzberg (1994) separates intended, deliberate, unrealised, emergent and realised strategies. When organisations plan for future they make intended strategies. When these plans are implemented the strategy becomes deliberate and finally realised. Sometimes the plans are not realised at all and become

unrealised. Emergent strategies are those which were not expressly intended. Strategy can also emerge through a series of actions. Actions are taken, one by one, which converge in some consistency of pattern through incremental decisions. A company makes diversification decisions one by one, in effect testing the market, until the strategy of diversification emerges. (Mintzberg 1994, 25; Mintzberg and Lampel 1999.) Choice of the active strategic control systems makes an assumption about the nature of the strategy process (Simons 1995).

It is very difficult to create a strategy through a formal strategy process. Actually, strategy formation is an impenetrable black box. Around this black box the planners have their formal roles. Strategy making is neither purely a technical analysis nor intuition (Mintzberg 1994). Strategists may be found at all levels of the organisations. Formal processes start by the briefings of the senior managers, when the grand lines of the strategy substance are drafted. Strategic initiatives emanate from the centralised functions. The assumptions of the formal strategy or the final strategic plan can be questioned by middle managers and other key persons. In this situation an emergent strategy may arise and replace the intended strategy (Mintzberg and Quinn 1996).

Mintzberg (1994) separates strategic planning and control from strategy formation which he calls “the impenetrable black box” in the heads of the managers. However, intuitive strategy making depends, especially in large organisations, on analysis and planning. Plans have a dual role, first, as communication media in the form of programs, schedules and budgets, and second, as a device of control assessing both the effectiveness of the intended strategies and emergence of the unintended ones (Mintzberg 1994, 329-359). Planning provides, as an input, hard analytical data for the strategy maker who turns it into personal knowledge, soft information which produces decisions and action. As an output, planning provides visions, shared understanding and feelings of common purpose, which are the means of communicating the essence of the intended strategy. Strategic control relies on the analysis of the decomposed representations of the strategy and keeps the organisation on its intended tracks. The means of controlling vary from systems which produce financial data to sets of different systems which describe with various indicators the behaviour of the organisation explicating the possible emergent strategies. The scope of the dimensions in strategic planning and control may focus on a single financial dimension or cover multiple dimensions of the business and its environment. The concept of the strategic control systems itself has extended from the traditional diagnostic and boundary systems to beliefs and interactive systems which enable the managers to exchange tacit knowledge with their subordinates and superiors (Simons 1995).

An alternative to the classical normative approach of the positioning and planning schools is the descriptive and sociologically sensitive *systemic approach* which does not oppose to the strategy practices, but refuses to accept the forms and ends of the rationality of the classical approaches as anything more than historically and culturally specific phenomena (see Whittington 1993, 28). Culture in management literature surfaced along the success of Japanese Corporations. Several studies have demonstrated the impact of national cultures on the structures and decision-making styles of companies (for references see Whittington 1993, 29; Mintzberg et. al 1998, 267). Since the 80's culture in management studies has taken many forms and concepts, but the common basic feature is the emphasis on status quo, stability of cultural properties. The writings do not promote change and the theories are not normative.

Mintzberg et. al (1998, 267-268) summarise the premises of the cultural school:

> *1. Strategy formation is a process of social interaction, based on the beliefs and understandings shared by the members of an organisation.*
> *2. An individual acquires these beliefs through a process of acculturation, or socialisation, which is largely tacit and nonviable, although sometimes reinforced by more formal indoctrination.*
> *3. The members of an organisation can, therefore, only partially describe the beliefs that underpin their culture, while the origins and explanations may remain obscure.*
> *4 As a result, strategy takes the form of perspective above all, more than positions, rooted in collective intentions (not necessarily explicated) and reflected in the patterns by which the deeply embedded resources, or capabilities, of the organisation are protected and used for competitive advantage. Strategy is therefore best described as deliberate (even if not fully conscious).*
> *5. Culture and especially ideology do not encourage strategic change so much as the perpetuation of existing strategy; at best they tend to promote shifts in position within the organisation's overall perspective. (Mintzberg et. al 1998, 267-268.)*

Culture is a shared reality in a collectivity. It regulates the behaviour of individuals in organisations and, especially, the intentions to implement planning and control systems. The research into the change of management accounting practices requires explication of corporate culture (Capps et al. 1989; Dent 1991; see also Granlund 1998, 31). In Giddensian terms the power of the manager is the source of change in social systems.

Domination structures are a part of organisational culture. The duality of the structure is expressed in power and culture. Power focuses on managerial initiative and self-interest, culture concentrates on a unified organisation and

collective interest. Power represents the centrifugal force that drives the organisation apart, and culture represent the centripetal force that draws the organisation together (Mintzberg and Quinn 1996). Culture is produced and reproduced through action and interaction. It consists of shared systems, beliefs, habits and traditions (Mintzberg and Quinn 1996). Organisational cultures are not independent of the social context.

The corporate rationale as the most essential part of the corporate culture is tightly linked with the perception of the strategy among the individual members of the organisation. Mintzberg (1994) has a rather pessimistic view on the possibilities of strategic planning to deal with strategic transition.

> *No one has ever seen or touched a strategy. Strategies, in other words, do not exist as tangible entities. They are abstract concepts, in the minds of people. And the best of them seem to be gestalt in nature, tightly integrated, whether intended strategies as synthesized patterns of preferences prior to the taking of actions or realized strategies as synthesized patterns already formed among actions. Thus serious change in strategy generally means shift in gestalt – the conception of new worldview, generally based on a permanent change in conditions, or at least the* perception *of such a change. On both sides, therefore – in the mind and out – serious change in strategy tends to be associated with discontinuity, the very thing that planning is least able to handle. (Mintzberg 1994, 240.)*

During the empirical part of the research, strategic thinking was polarising around Porter's revived positioning school (Porter 1996) and Mintzberg's socially more broader thinking (Mintzberg 1995; Mintzberg et al. 1998). In addition to the polarised thinking, new ideas emerged constantly to answer the critics of strategy making (see e.g. Hamel & Prahalad 1993, 1994).

2.2 Strategic control

Organisational control literature notices two main approaches and a hybrid of these two: performance evaluation and socialisation by norms (see. e.g. Govindarajan and Fisher 1990). One example of socialisation by norms is clan control which attempts to minimise divergent behaviour in organisations Ouchi (1979). In performance evaluation, organisation and its members are measured (inputs, outcomes or both), evaluated and rewarded (see e.g. Anthony 1965). Merchant (1985) introduced a hybrid of these two when he identified three generic alternatives of control. *Action controls* are direct forms of supervision. *Results controls* emphasise outcomes. *Personnel controls* are

focused among other things on the recruitment, placement and training of personnel. Personnel controls are closely linked to cultural norms.

This subchapter introduces a more recent framework, Simons's (1995, 2000) hybrid form of organisational control framework which is applied as a preconception of strategic control in this study. The framework covers both the diagnostic practices as well as social practices. The latter part of the subchapter explores relevant contingency research which links some generic strategies to certain types of strategic control and management accounting (for references see Chenhall 1999). As such, SMA practices are proposed as universal solutions, but the basic thrust of contingency approach is valid. The strategic context is an essential factor in the implementation of SMA practices (see e.g. Wilson 1995, Ward 1992). Evidence suggests, for instance, that product differentation, customer-focused or flexible manufacturing strategies are partigularly suited to balanced scorecards (Chenhall 1999) and that ABC success is linked to competitive strategies and quality/JIT/speed management (Shields 1995).

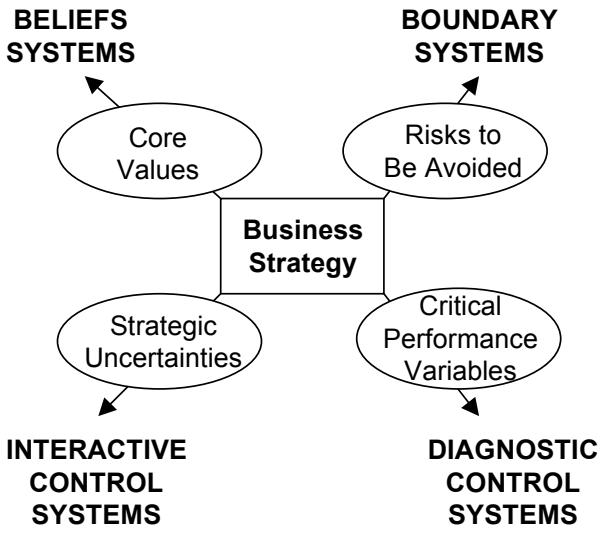


Figure 7 Simons's strategic control framework (Simons 1995, 7)

Simons (1995) introduced a strategic control framework (see Figure 7) which equals four different groups of control systems. *Diagnostic control systems* are used to monitor performance with established measurable indicators. *Boundary systems* restrict the actions of organisations to minimise strategic risks. These two groups of systems guide the members of an organisation to behave in an uniform manner according to plans. *Beliefs systems provide* credos, mission statements and other value laden directives

for the organisation. *Interactive control systems* are personal means for managers to involve in the decision activities of their subordinates. These two latter groups of systems promote innovative behaviour. Simons points out that these systems can be active simultaneusly. For instance, managers may use diagnostic control systems interactively. Simons has a broad definition of management control systems: *"management control systems are the formal, information-based routines and procedures managers use to maintain or alter patterns in organisational activities."* (Simons 1995, 5.)

Using his framework Simons (1995) studied ten newly appointed senior managers in two clusters. The managers in the first cluster, *"strategic turnaround"* , were redirecting the basic strategy of the business, mainly under pressure to improve performance. In the second cluster, *"strategic evolution"*, managers had a mandate to continue the trajectory of profitable growth. Regardless of their mandate, managers in both clusters used control systems to overcome organisational inertia; communicate the substance of their new agenda; structure implementation timetables and targets; ensure continuing attention through incentives; and focus organisational learning on the strategic uncertainties associated with their vision for the future (Simons 1995, 149). The study confirmed the importance of formal management systems as levers of change and suggested that managers use these levers consistently and actively to control business strategy (Simons 1995, 149).

The cases in the first cluster resemble closely the research setting in this study, which makes the findings from this cluster specially relevant. In the first cluster boundary systems promoted the unlearning of old behaviour patterns. Beliefs systems were used to provide a new frame of reference for the change to follow. Changes in diagnostic control systems focused organisational attention on the critical performance variables that would support the implementation of the new strategy and the introduction of interactive systems created a formal way of generating dialogue, debate and learning that allowed new strategic initiatives to emerge. The managers in the first cluster also made bonus incentives largely subjective during the first year in an attempt to capture allegiance to the new strategy. (Simons 1995, 149-151.)

Simons's findings suggest the applicability of his framework, which has been noticed by other researchers (see e.g. Puolamäki 1998; Kasurinen 1999; Tuomela 2000), but fails to deepen the analysis. Interestingly, in the first cluster there were four managers, two of which left their posts during the second twelve months of their tenures. Simons argues that the actions of these two managers are not failures, because each of their successors continued the basic strategy they had set for the businesses, but he speculates with the reasons. They were perceived by some subordinates as insufficiently attentive

to key processes. As a result, there was a gradual reduction in organisational commitment to the strategic changes advocated by these two managers. (Simons 1995, 148.) Coincidentally, one of the two newly appointed managers in this study left the company after two years (twice!) and his successor "continued the basic strategy he had set for the business".

The conclusion in this section is that in this particular research setting of managerial action in divisional strategy both approaches, performance evaluation and socialisation by norms is needed. Simons's four lever strategic control framework is the most comprehensive to date, but however, misses intervening factors between managerial control action and organisations.

2.3 Perspectives of SMA

2.3.1 The scope of SMA

The definition of management accounting has evolved from a system of financial information into a set of managerial tools to handle a broad scope of data transformed into information, supporting decision-making and business control. Simultaneously the focus of management accounting has moved from functional responsibility to processes, non-financial measures and also more and more to external factors such as markets, customers and competitors. Also information that has predictive power has been emphasised (Horngren et al. 1997).

In the early 90's new strategic performance measurement systems were promoted in normative literature (e.g. Lynch and Cross 1993; Kaplan and Norton 1993, 1996a, 1996b). Since then the concepts of measurement, especially Balanced Scorecard and Tableau de Bord, have evolved towards the core of monitoring the strategy (Kaplan and Norton 2001; Epstein and Manzoni 1997). At the same time, the framework of strategic control has widened to explicitly cover beliefs, boundary and interactive systems along with the traditional diagnostic control systems (Simons 1995).

There are several definitions from a variety of perspectives (e.g. Simmonds 1981; Bromwich and Bhimani 1989, 1994; Bromwich 1990; Shank and Govindarajan 1993) but no generally accepted definition, concept or structure of SMA. It is even argued that management accountants have neither the will nor the knowledge to participate in strategic management and that the processing of the strategic information is part of the operational management of firms (Lord 1996).

There has been a growing academic interest in strategic management accounting (SMA) and several attempts have been made to create typologies (e.g. Wilson 1995; Bromwich and Bhimani 1994; Roslender 1995; Kasurinen 1998), but its status is still controversial (Guilding et al. 2000). The most comprehensive and thus the most interesting typologies of SMA in the context of this study are provided by Roslender (1995) and Kasurinen (1998). Roslender (1995) uses the term Accounting for strategic positioning (ASP) to describe developments in management accounting designed to assist the senior management to secure, and subsequently to sustain, competitive advantage. He identifies three generic approaches to ASP: activity accounting, strategic management accounting and accounting for advanced manufacturing technology. Strategic management accounting has several categories: the Bromwich and Bhimani approach to SMA, strategic cost analysis (SCA) advocated by Porter, strategic cost management (SCM) by Shank and Govindarajan and finally target costing (TC). Kasurinen (1998) proposes an integrated framework of strategic management accounting which contains six parts 1) management control –strategy, 2) position relative to others, 3) internal efficiency, 4) other relevant information, 5) investment appraisal and 6) performance measurement system. The performance measurement system is the uniting element between the different parts of the framework. Both typologies fall short on linking the categories to actual strategy work.

In general terms SMA is a form of management accounting which provides data for strategic purposes, i.e. planning the strategic position and controlling the strategic performance of the firm. There are surveys providing empirical evidence of the existence of this type of SMA practices (Guilding 1999; Guilding et al. 2000). There is also anecdotal case evidence of the practical applications of SMA (Dixon 1998; Kawada and Johnson 1993; Coad 1996) and numerous studies of the implementation of strategic performance measurement systems (see e.g. Malmi 2001).

From the management accounting perspective, the classic approach to strategic management is an iterative process of planning and control. Both planning and control may be well structured and parts of an organisation's formal routines but they may also be results of interaction based on subjective notions of important issues. For most accountants planning is future thinking and determining action plans, which should achieve the corporate plans. Regardless of the nature of the planning process, whether it aims at controlling the future or to a specified set of decisions, planning is a formalisation of the organisation's long-term activities. This formalisation may be strategic programming, like most annual strategic planning cycles, a repetitive decision process which utilises organisation's existing information systems and forecasting procedures. Unfortunately, many issues during strategic change are

non-repetitive and the information for one-off decision is not available in the organisation and the information system is tailored for one-time decision. The control function of management accounting also falls into two similar categories as planning. Management accounting provides routine feedback to decision-makers whether the organisational objectives are met or not and reports the degree of the achievement. This feedback should be used to initiate corrective actions or to modify objectives. Another control function of management accounting is to act as an analytical learning process for the planning. This traditional planning/control cycle supposes pre-existence of plans to measurement of actions. This assumption has been criticised (see e.g. Morrow 1992, 93; Mintzberg 1994) by claiming that managers follow their own agendas and monitor their actions, and the plan submitted for approval is at best a post-rationalisation.

In spite of the heavy criticism on financial measures (e.g. Merchant 1985; Johnson and Kaplan 1987) their role as a dominant control device in diversified companies still prevails. The main reason for this is that they rely on verifiable records of economic transactions and they are relatively objective across the business unit boarders. The practices of producing financial information vary from costing techniques to more elaborated economic-value-added metrics, but the common idea is to break the business down into its main components and to provide information on relevant issues such as, product or customer profitability and provide also meaningful information for shareholders about the totality. Typically, the strategic financial planning and control perspective is from the centre imposing the measures to the business units.

Many management accounting practices which produce financial information have a close linkage to non-financial metrics (e.g. the non-financial, process related measures of cost drivers in ABC) and vice versa (e.g. the cause-and-effect relationship of non-financial measures to financial measures in BSC). In this sense the role of non-financial measures has been the elimination of dysfunctional effects of financial control emphasising more long-term issues and more comprehensive approach to the business. Operational non-financial measures have co-existed with financial measures for decades but the recent interest in strategic monitoring has emphasised the strategic nature of non-financial measures. Research evidence on causal relationship between non-financial indicators and financial performance is scarce but it supports the inclusion of customer satisfaction indicators in internal performance measurement systems and compensation plans (Ittner and Larcker 1998).

In recent literature strategic non-financial measures constitute a new tool for top executives to operationally control the business along the lines of pre-

existent strategy (Kaplan and Norton 1996b, 2001: Lynch and Cross 1993; Epstein and Manzoni 1997; see also Maskell 1991, Beischell and Smith 1991). The central assumption is that top management is the most central actor. The marginal role of divisions and business units is to operationalise and implement the new performance measurement systems. This type of approach falls short when the new strategy is in search and the top management initialises the strategy formulation without any explicit goals except financial constraints. The top-down approach does not, obviously, empower teams (Meyer 1994). The difficulty of designing comprehensive measures probably also inhibits the performance measures as a facilitator of strategy implementation in business units (Lillis 2002). The fast development of computer aided information processing systems has recently introduced new planning tools for strategy formulation which are capable of processing vast amounts of information in databanks and on e.g. the Internet. This allows the combination of non-financial data from different sources during the strategic planning.

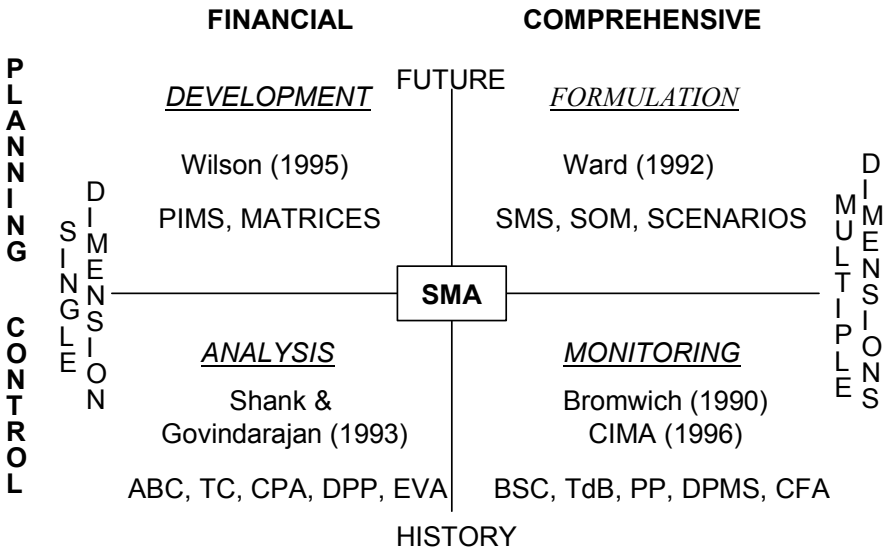


Figure 8 SMA definitions and practices

The combination of two dimensions of information needs, planning/control and financial data/comprehensive data (Figure 8), provides following four-category framework for a structured literature analysis of strategic management accounting:

1) *analysing* financially the realised strategies of SBUs,

2) *monitoring* comprehensively the strategy and competitive position in a specific line of business or SBU,

3) *developing* the business portfolio strategies, and

4) *formulating* a new SBU strategy in a situation forced by environmental changes or internal demands of turnaround.

All the examples of SMA practices have a linkage to the case organisations, which has been the reason to include them in the study from various possible practices.

Although the prominent definitions by Shank and Govindarajan (1993), Bromwich (1990), CIMA (1996), Wilson (1995) and Ward (1992) are somewhat vague and overlapping, they fall into these categories making explicit ofr implicit assumptions about the nature of the strategy and about the main function of SMA. The framework classifies the individual SMA practises into coherent groups by their purpose. The managerial actions are situation-bound and they are not mutually exclusive. Monitoring and formulating activities need more non-financial and comprehensive information than analysing and developing activities which are associated with the centre's efforts to control business units. On the other hand development and formulation use future-oriented information in contrast to analysing and monitoring which are oriented towards historical outcomes. All information processing tools which have strategic purpose and/or have a long-term, forward-looking orientation qualify as a SMA practice.

2.3.2 SMA methods of financially analysing strategies

The traditional financial measures answer the basic strategic question. Has the realised strategy been viable? Most companies set profit and return on capital - goals for their operations and analyse the actual outcomes against these goals. This information is used for gap analysis which shows the improvement gap caused by overoptimistic plans and strategic gap which is the difference of the earnings earned in present business operations and the overall profit goal of the company. Strategic gap is caused by a strategy becoming gradually obsolete. (see e.g. Glautier and Underdown 1994, 477.) This type of analysis is typically a part of formal yearly strategy processes. Strategic financial analysis makes also the future projection of financial performance possible (Laitinen 2002).

Economic value added, EVA® is a trademarked tool to maximise shareholder value. It is a creation of a consulting firm, Stern Stewart & Co. (Stewart 1991; Stern et al. 1995.) It is a single financial measure designed among other things to be used in the evaluation of business strategies and in

monitoring the strategic performance. The measure is a variant of residual income and it is applicable in both corporate and business unit levels of analysis. (O'Hanlon and Peasnell 1998.) The main motivation for the adoption of EVA® seems to be alignment of managerial and shareholder objectives, but it does not lead to fundamental changes in operating strategy (McLaren 1999, 31).

Some authors see that strategic management accounting techniques are designed to support the overall competitive strategy of an organisation principally by using information technology to develop more refined product or service costs (see e.g. Palmer 1992). One of the main contribution on this area has been activity-based costing (ABC) by Cooper and Kaplan (Cooper 1988ab, 1989ab; Cooper and Kaplan 1988). ABC provides a means of establishing more accurate product costs than the traditional means, absorption costing, though basically the raw data comes from the registers of financial transactions complemented by relevant statistics. Originally this information was supposed to serve operative decisions like whether to accept an order for a particular product or not, but soon the emphasis moved to the strategic potential of ABC. Already in 1988 (97) Cooper and Kaplan argued that "… *activity-based costing is as much a tool of corporate strategy as it is a formal accounting systems*…" The information revealed the details of improvement and strategic gap. This information is important in long-range decisions such as defining product and customer mix and it helps management to make decisions on resource allocation (Mitchell 1994; Swenson 1995, 173; Innes and Mitchell 1995). ABC evolved also to a management tool activity-based management (ABM) which draws attention to cost management rather than just the allocation of costs (see Cooper and Kaplan 1999). By an effective management of resource consumption the profits increase. The strategic cost management nature of ABC has become explicit in recent years (Blocher and Berry 1998; Cooper and Slagmulder 1998a, 1998b, 1999).

Gosselin (1997) studied the effect of strategy and organisational structure on the adoption and implementation of activity-based costing. His results show that organisations with high vertical differentiation are positively associated with the adoption of activity-based costing but many firms that adopt ABC do not actually implement it for continuous use. Centralisation and formalisation, i.e. bureaucracy is associated with organisations that actually implement ABC. Prospector types of companies may adopt activity management and even use ABC as an ad hoc tool in decision-making but tend not to formalise it. (Gosselin 1997, 118.) Gosselin's findings suggest that the initiators of ABC can be found in the headquarters of the diversified companies.

Shank and Govindarajan (1989, xi) introduced strategic cost analysis (SCA) which they define as "…cost analysis in a broader context, where the strategic elements become more conscious, explicit, and formal. Here, cost data is used to develop superior strategies en route to gaining sustainable competitive advantage." The concept evolved into strategic cost management (SCM) which is a blending of three themes: value chain analysis, strategic positioning analysis, and cost driver analysis (Shank and Govindarajan, 1993).

Target costing (TC) is originally a Japanese approach which is usually regarded as one of SMA techniques (e.g. Fisher 1995a; Roslender 1995; Shank and Fisher 1999) for obvious reasons. TC begins with the identification of a potential product and the determination of its market and price. Target cost is the remainder when the profit margin is subtracted from the price. The whole value chain is analysed and through value engineering cross-functional teams pursue the competitive advantage. Other approaches involving the identification of the costs relevant to a supplier's trading relationship with any particular customer are: customer profitability analysis (CPA) (see Foster et al. 1996) and direct product profitability (DPP).

The previous techniques of strategic management accounting are based on traditional and existing data systems. The advances in information technology have effectively reduced the costs of processing strategically relevant data already possessed by the organisation.

2.3.3 SMA methods of multidimensional monitoring the strategy

From the beginning of the SMA conceptualisation the organisational financial information was supplemented with respective information from competitors. The emphasis was on relative competitive position, determined mainly by financial and related measures (Simmonds 1981, 1986.) The perspective was broadened by Bromwich (1990) when he defined SMA as *"The provision and analysis of financial information on the firm's product markets and competitors' costs and cost structures and the monitoring of the enterprise's strategies and those of its competitors in these markets over a number of periods."* Finally in its definition of SMA CIMA's management accounting official terminology (CIMA 1996) mentions non-financial information: *" A form of accounting in which emphasis is placed on information which relates to factors external to the firm, as well as non-financial information and internally generated information."*

Originally the driving forces behind the emergence of non-financial measures during the 80's were modern production technologies and process management, especially quality concepts and customer orientation (see e.g.

Johnson and Kaplan 1987; Kaplan 1990; Fisher 1992; Tuomela 2000; Vaivio 1995, 2001). Productivity measurement has also a long tradition of non-financial measures (see e.g. Maskell 1989; Armitage and Atkinson 1990; Hannula 1999). But even the pioneering ideas of non-financial measurement promoted the strategic monitoring dimension of performance measurement (e.g. Rockart and Treacy 1982; Rockart 1984; see also Schneiderman 2001) and even the seemingly operative theme of measuring continuous improvement has a strong strategic undertone (e.g. Turney and Anderson 1989; Grundy 1997). Thus the emergent non-financial performance measurement and control systems have had a close linkage to the evolving strategic management accounting concept.

Kaplan's intentionally provocative start to an over a decade-long debate of relevance in management accounting (Kaplan, 1983, 1984; Johnson and Kaplan, 1987) was a critique of the lack of support to new manufacturing technologies and management systems, its subordination to financial accounting, especially to financial reporting, its new theory being too distant from actual management accounting practice, and its relevance being gradually lost since 1925 when the theory was fully mature. This debate boosted many performance measurement systems. The most well-known normative responses to the alleged loss of relevance were The Balanced Scorecard (Kaplan and Norton 1992, 1993, 1996a, 1996b, 2001), Performance Pyramid (Lynch and Cross 1993), Dynamic Performance Measurement System (DPMS) (Laitinen 1998) and Tableau de Bord (see Epstein and Manzoni 1997). The balanced scorecard and performance pyramid are explicitly strategy driven performance measurement systems. Tableau de bord was developed originally by process engineers who wanted to improve their production processes. Later the promoters of tableau de bord have emphasised the role of business units mission and vision in performance measurement. (Epstein and Manzoni 1997; see also Bromwich and Bhimani 1994.) Kaplan and Norton (2001, 3) claim that they introduced the balanced scorecard as a measurement system, but it evolved through successive implementations into a tool for managing strategy.

Very often strategic performance measurement systems are associated with the upper levels of the organisational hierarchy but all these management models emphasise the role of SBUs as crucial (see e.g. Kaplan and Norton 1996b, 297).

An elementary part of strategy monitoring and prerequisite for strategy formulation is competitor-focused accounting (CFA) which is vaguely defined but practices such as competitor cost assessment, competitive position monitoring, competitor appraisal based on published financial statements, strategic costing and strategic pricing are identified in literature (Guilding

1999, 584). Competitive advantage can only be created by comparison to competitors. Ward (1992, 109) emphasises the comprehensive nature of the competitor analysis which should not be regarded as the exclusive responsibility area of the management accounting area. The detailed knowledge of the relevant differences is spread throughout the business and also outside. Business intelligence function has a central role in compiling the competitor data-base (see Porter 1980, 73).

2.3.4 SMA in the development of strategies

The analysis and monitoring of strategy have dominated the discussion of SMA. The strategy development literature within the accounting discipline is scarce but Wilson's (1995) definition of strategic management accounting has clearly a development perspective: *"Strategic management accounting is an approach to management accounting that explicitly highlights strategic issues and concerns. It sets management accounting in a broader context in which financial information is used to develop superior strategies as a means of achieving sustainable competitive advantage."* The role of management accountants have always been significant in supporting the formal planning processes with background information about organisations' capabilities including information about past performance, product mix, future sales, cost-volume-profit relationships, profit margins, capital expenditure etc. An important part of this provision of information includes determination of performance objectives expressed in financial measures. Other important issue in developing strategy is the evaluation of different strategic options. (see e.g. Ezzamel and Hart 1987.)

One significant area of strategy development is investment appraisal which is traditionally conducted using quantitative methods such as discounted cash flow, return on capital or pay back. The use of these methods is constrained by various qualitative factors. Especially technology choices are problematic issues to analyse solely relying on quantitative financial methods. (Ezzamel and Hart 1987, 247; Shank and Govindarajan 1989, 1992, 1993; Shank 1996.)

PIMS or profit impact of market strategy earns a special notion as a system for development of business strategies. It was a research program initiated by General Electric and Harvard Business School in early 70's. Towards the end of 80's the database contained circa 200 key figures from around 3000 business units. The system supported strategic decision-making by revealing analogies. By choosing historically successful patterns of strategic action a business unit could improve its financial performance. (Buzzell and Gale

1987.) Strategic benchmarking is analogical to PIMS but it is more situation specific using selected strategic measures (see e.g. Clayton and Luchs 1994).

In diversified companies the central strategic problem is the allocation of funds to the different businesses. The BCG growth-share matrix embedded the choices into a systematic framework. Porter's matrix of generic strategies turned the focus on competitive position. The GE matrix of the business position assessment predicts the position of the business.

Porter made significant contributions to strategy formulation and implementation. Following his ideas, value-chain analysis is a way to breaking down a firm's strategically relevant activities in order to understand the behaviour of costs and in the next phase relate them to those of the competitors. This analysis is linked to low cost strategy in Porter matrix. (see Wilson 1995.) Other positioning matrices such as Boston Consulting Group's product portfolio matrix and General Electric's business position assessment matrix also require detailed financial analysis of the organisation and they assume implicitly that this information is available. The promoters of these matrices do not emphasise that there should be any special form of management accounting providing information for the analyser and planner.

Traditionally, all planning systems are centrally developed and maintained. The formal, yearly planning procedures support incremental strategic decisions and rarely formulate central strategies (see Mintzberg 1994, 108; Quinn 1980). The development of strategy means development of existing strategy in line with the established business operations. The development of strategy with the help of financial positioning, plans and measures of the different businesses in the company, is development of the business portfolio. In this sense it is different from strategy formulation which concentrates on formalising the intended and emergent strategies of individual businesses (which, naturally, may also be ownership of different businesses).

2.3.5 SMA in the formulation of a new strategy

Already Simmonds'(1981) definition of strategic management acknowledged the importance of development perspective and broad information base: *"the provision and analysis of management accounting data about a business and its competitors for use in developing and monitoring the business strategy, particularly relative levels and trends in real costs and prices, volume, market share, cash flow and the proportion demanded of firms total resources."* His definition was broad, but the actual substance presented was modest. Another creditable attempt to define strategic management accounting from strategy formation perspective comes from Kasurinen (1998): *"The provision and*

analysis of conscious and explicit data (short-term or long-term) about a business and its external environment for use in developing and monitoring the business strategy." This is by far the most general and abstract of the SMA definitions, but still does not catch the input and support to the impenetrable black box of strategy making process (see Mintzberg 1994, 331).

Ward (1992, 3) links strategic management accounting to strategic management and relates it to traditional areas of management accounting: "*Strategic management is normally regarded as an integrated management approach drawing together all the individual elements involved in planning, implementing and controlling a business strategy. Thus it clearly requires an understanding of the long –term goals and objectives of the organisation (where it wants to go). There must also be a comprehensive analysis of the environment in which the business both is and will be operating (where it is). This analysis must include all the internal operations and resources (both existing and potential) of the organisation but equally importantly, must cover the external aspects of its environment. This includes competitors, suppliers, customers, the economy, governmental changes, as well as legal and other regulatory changes, etc. This need to include, and indeed concentrate on, these many factors which are external to the organisation is a major element which separates strategic management accounting from the other, more traditional, areas of accounting."* This characterisation of SMA is impressive but again most of the substance comprises financial measures around four areas: segment profitability, competitor accounting, customer account profitability, and product profitability analysis.

One of the most diffused practices, to handle the insecurities of future in the strategic planning, has been the scenario building technique. The central idea in scenario building is to speculate upon a variety of future events, involving the determination of causal factors that drive them, and the formation of a range of possible assumptions about each combined into the scenario (Porter 1985; see also Mintzberg 1994).

Often the needed data for strategy formulation can not be acquired from transaction-based accounting registers, but from different sources inside and outside of the company. Very often interpersonal skills are essential in data gathering, as well as proactivity and commitment. Both the information processing and final information usage in the decision situation require strategic knowledge. Technical tools are for example surprise management systems (SMS) (see e.g. Brouthers and Roozen 1999) and self-organising neural networks (SOM) (see e.g. Serrano-Cinca 1998). SMA has close links to business intelligence function. The future-oriented comprehensive information may come close to and overlap with the results of macro economic analysis.

The type of SMA in major strategic changes is not so much about hard data and accounting as soft data and cognitive information processing. SMA is mostly unstructured and situation-bound. The turbulence level of environment may vary from fast incremental changes through discontinuous predictably changing to discontinuous unpredictable change. When the change is unpredictable the information content of SMA focuses on learning capabilities and innovativity. (see Brouthers and Roozen 1999.)

2.4 Normative arguments for three SMA practices

2.4.1 Activity-based costing

The normative literature on SMA practices lists several motivations for implementation. This subchapter summarises the normative claims of ABC, BSC and CFA literature, which are the main foundations of the managerial constructs in the case organisations.

From the mid 80s onwards the interest in activity-based techniques increased dramatically. Cooper and Kaplan (see e.g. Cooper 1988a, 1988b, 1989a 1989b; Cooper and Kaplan 1988, 1999) developed a series of case studies and articles which form the basis of the recent thinking on the subject. Their interest started with the use of activity costs as a means of building up product costs as an alternative to large labour overhead burden rates and other arbitrary means of overhead allocations. From this they developed into customer profitability and other, also explicitly strategic, uses of the techniques. Figure 9 (Morrow 1992, 64) illustrates the principle of activity-based costing (see e.g. Cooper and Kaplan 1999).

Even their seemingly operational idea of better allocation of indirect costs had a strategic background. Automation and miniaturisation has reduced the relative share of direct material and direct labour costs, on the other hand the absolute costs of marketing, research and development, administration and general management has increased. The search for growth has increased diversification and efforts to manage complexity become more and more costly. Some companies, faced with failing profits, tried to solve their complexity problems by refocusing their strategy on products which showed the best profits according to absorption costing. In many cases the decisions were wrong. The mature cash cows, easy to manufacture and easy to sell were eliminated, because the direct costs drove the overhead burdens into unproportional heights and these products showed losses although, actually, the complexity of the new products drove the costs. At the time ABC was

perceived, for example, as *"particularly appropriate for medium/long-term product strategy decisions and over this time scale so-called fixed costs can be expected to vary as a result of strategic decision taken"* (Dugdale 1990, 38; Cooper and Kaplan 1988).

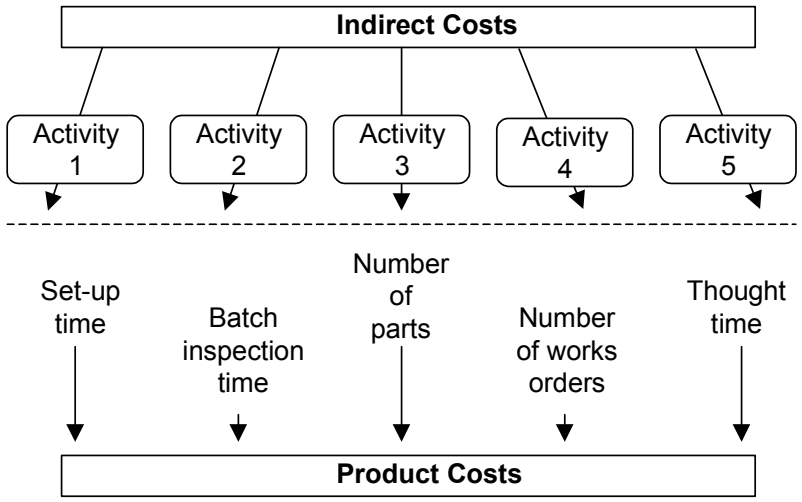


Figure 9 Link between products and resources they consume

During the 1990's the strategic potential of activity-based approaches became more explicit. Firms used ABC to support their strategic decisions such as product sourcing, pricing and mix decisions (see e.g. Swenson 1995). Cooper and Slagmulder (1998a, 1998b) promote a specific strategic costing module as an essential component of an enterprise-wide cost management system to generate profitability maps which are part of cascading cost-benefit trade-off, the objective of which is to achieve higher firm profits. As an example, activity-based profitability map enables the management to identify high-profitability products and to try to introduce new versions of such products, or they can try to sell more of the existing ones. Alternatively, managers can identify loss-making products and find ways either to reengineer them to reduce their costs or discontinue them (Cooper and Slagmulder 1998b).

A conflict prevails between strategic activity-based costing and financial reporting. Traditionally, the costing systems have to reconcile to the firms financial reporting system at the period level. Cooper and Slagmulder (1998a) pinpoint costs which are defined differently in strategic costing and by full-costing instructions of GAAP. The cost of unused capacity is excluded from strategic cost estimates and, on the other hand, specific customer-related costs

are included. The activity-based contribution approach is more useful than a full cost approach. The ABC definition of contribution differs, though, from the traditional definition in the sense that some of the fixed costs of traditional contribution calculus are included as long-term variable costs. The actual emphasis is to trace all costs to product, which is, naturally, impossible without arbitrary allocation rules (Dugdale 1990; Cooper and Slagmulder 1998b). Morrow (1992, 77) has solved this paradox by emphasising a hierarchy of analysis which reports profit at the product, customer order, customer and market segment levels by successively subtracting customer order processing costs, customer sustaining costs and market-segment sustaining costs.

The following list summarises the main suggestions of normative ABC-literature (Cooper and Slagmulder 1998a 1998b; Cooper and Kaplan 1999):

1. Strategic ABC includes all variable costs both short-term and long-term.
2. Strategic ABC excludes unused capacity costs.
3. Strategic ABC supports strategic decisions of resource allocation between products, customers and market segments as well as decisions on product design and development.
4. Strategic ABC encompasses decisions made on pricing.
5. Strategic ABC module should be a part of enterprise-wide cost management system.

The basic idea of ABC is that correct assignment of costs will support decisions which lead to competitive edge.

2.4.2 Balanced scorecard

Balanced scorecard has its roots in the consulting of big U.S companies. Kaplan and Norton participated in development projects of performance measurement and by the beginning of 1990 a measurement system, later called Balanced Scorecard, was introduced (Kaplan and Norton 1996a). The original idea was a performance measurement concept but soon it evolved into strategic performance measurement system and later it has became a strategy implementation system (Kaplan and Norton 2001). BSC concept has been widely adopted all around the world.

The system balances external measures for shareholders and customers, and internal measures of critical business processes, innovation, and learning and growth (see Figure 10). The measures are balanced between the outcome measures -the results from the past efforts- and the measures that drive the future performance. Finally the system is balanced between objective, easily quantified outcome measures and subjective, somewhat judgmental,

performance drivers of the outcome measures. (Kaplan and Norton 1996b, 10-11.)

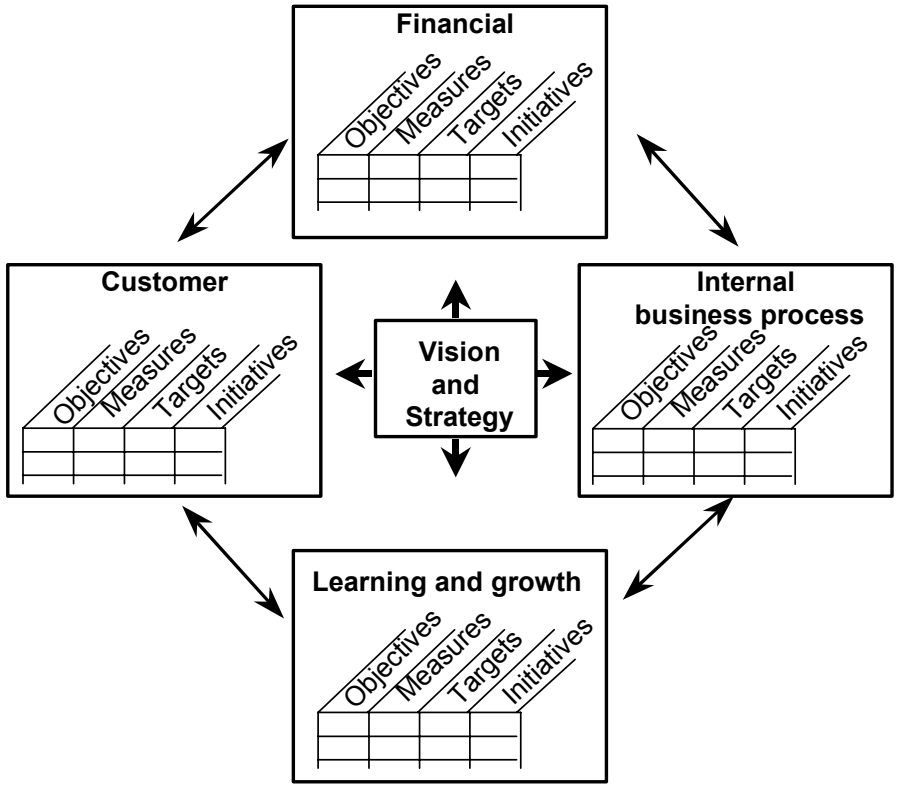


Figure 10 Balanced scorecard management system

From the customer perspective, managers identify the customer and market segments in which the business unit will compete and the measures of the business unit's performance in these targeted segments. The internal business process measures focus on the internal processes that have the greatest impact on customer satisfaction and achieving an organisation's financial objectives. the learning and growth perspective identifies the infrastructure that the organisation must build to create long-term growth and improvement. Financial performance measures indicate whether a company's strategy, implementation, and execution are contributing to bottom-line improvement. Balanced scorecard translates vision and strategy into objectives and measures across a balanced set of perspectives. The scorecard includes measures of desired outcomes as well as processes that will drive the desired outcomes for the future.(Kaplan and Norton 1996b, 25-29.) The authors claim that companies use the measurement focus of the scorecard to accomplish critical management processes:

1. Clarify and translate vision and strategy.
2. Communicate and link strategic objectives and measures.
3. Plan, set targets, and align strategic initiatives.
4. Enhance strategic feedback and learning.

Accomplishing these processes makes the balanced scorecard more than a tactical or an operational measurement system. (Kaplan and Norton 1996b, 10.)

The key issue in balanced scorecard framework is the linkages between the different measures and financial performance.

> *Building a balanced scorecard should encourage business units to link their financial objectives to corporate strategy. The financial objectives serve as the focus for the objectives and measures in all the other scorecard perspectives. Every measure selected should be part of a link of cause-and-effect relationships that culminate in improving financial performance. The scorecard should tell the story of the strategy, starting with the long run financial objectives, and then linking them to the sequence of actions that must be taken with financial processes, customers, internal processes, and finally employees and systems to deliver the desired long-run economic performance. For most organisations, the financial themes of increasing revenues, improving cost and productivity, enhancing asset utilization, and reducing risk can provide the necessary linkages across all four scorecard perspectives. (Kaplan and Norton 1996b, 47)*

To sum up, the balanced scorecard is a tool to align the strategic actions and strategic plans by integrating it to the organisation's control system.

2.4.3 Competitor-focused accounting

Competitive advantage is created by comparison to competitors. Traditionally, comparisons are implicit and not precise. The emergence of business intelligence (BI) has systemised the monitoring of the competitive environment. In large organisations BI is a function of its own which gathers and uses information necessary to measure competitors' actions. Whatever the competitive strategy is, head-on collision with competitor or a move into a business where there is no competition, formulation of a strategy without business intelligence could not be accomplished (see Herring 1992).

The basic rationale for CFA comes from the positioning school. Porter (1980) uses a five-part model of the existing competitive position. In his value chain inspired model current and future competition is analysed by grouping it into new entrants, alternative products, suppliers (forward integration of the

supplier) and customers (backward integration of the customer). Ward (1995, 87) links CFA strongly to Porter's model and suggests explication of competitive assumptions. The central idea is to build up a comprehensive data-base on each significant competitor. Up-dating is important since the competitive strategies will evolve. Although most of the data is of a financial nature, the competitor analysis should not be regarded as the exclusive responsibility of the management accounting area. The detailed knowledge of relevant cost differences will be spread throughout the business and also outside (see Porter 1980, 73). The role of the management accountants is to apply their financial analytical skills to translating these perceived physical or operational differences into an evaluation of the relative financial position of these key competitors. (Ward 1995, 109.)

Ward (1992) emphasises the relative prices, costs and investments, but the competitor analysis should also rank the particular competing business in terms of its importance to the total portfolio of the competitor. The rationale for traditional financial analysis is that the financial results drive strategic decisions, and financial gain is the way those decisions are judged (Johnson 2002).

2.5 Management accounting change

The change of management accounting has a problematic nature. We can ask if organisational change drives management accounting or vice versa (Burns and Vaivio 2001). The whole *"Lost Relevance"* discussion and literature after the publication of Johnson and Kaplan's book (1987) is based on the idea that changes in the operating environment impact management accounting. A lot of this literature is normative by nature and has directed the development management accounting. On the other hand there is evidence that management accounting facilitates organisational change (Dent 1991; Simons 1995). But we have also case evidence where remarkable environmental and operational changes did not change management accounting adhering to the cultural past of the organisation (Granlund 2001, see also 1998, 291). Also the development process of management accounting may very often be more important than the final results of the process, mainly because the development process facilitates questioning of the traditional patterns of action in the organisation (Partanen 2001, 310). These partly contradictory results of different studies have been explained for instance by the presence of influential individuals (Granlund 1998, 307; Granlund and Lukka 1987, 1988). This subchapter traces the sources of management accounting change and its implications for the evolution of SMA. The subchapter draws on the results of contingency

research and introduces first some generic contextual variables which have linkages to management control systems (MCS), and in the latter part focuses on links between strategy typologies and MCS in more detail.

The external environment has powerful elements of contextual variables, such as uncertainty, hostility and turbulence (see Chenhall 2003; Fisher 1995b; Dent 1990). The results of contingency research suggest that in a more uncertain environment the MCS are more open, externally focused and non-financial (broad scope information, Chenhall and Morris 1986; Gordon and Narayanan 1984; subjective evaluation style, Govindarajan 1984; participative budgeting, Govindarajan 1986). A hostile competitive environment also promotes formal control (Khandwalla 1972). Technology has three areas of importance to MCS design: complexity, task uncertainty and interdependence. The more standardised and automated processes the more formal MCS (Khandwalla 1977) and high budget use (Merchant 1984). Technologies with high task analysability are related to high reliance on standard operating procedures, programs and plans (Daft and Macintosh, 1981). High standardisation of products combined with flexible budgets and low participation enhanced performance (Brownell and Merchant 1990). High interdependence is associated with informal control, less emphasis on budgets and more interaction (Macintosh and Daft 1987; Chenhall and Morris 1986). The combination of advanced technologies and non-financial performance measures is associated with enhance performance when the measures are part of reward and compensation schemes (Mia 2000; Chenhall and Langfield-Smith 1998a; Chenhall 1997; Larcker 1983). Contingency research links the organisational structure to MCS. The main propositions in the current context are that large centralised organisations with sophisticated technologies and high diversity are associated with more formal, traditional MCS (Chia 1995; Chenhall and Morris 1986; Merchant 1981). Organic organisational structures are associated with perceptions that future oriented MCS are more useful (Scott and Tiessen 1999; Gordon and Narayanan 1984). These studies serve as a foundation for deeper analysis in the actual case contexts, but the mere existence of SMA practices is not sufficient to support strategic change. Another problem in contingency research is that it may lead to erratic circular research design: strategies are made objective facts by the same MCS which they are supposed to explain.

During the past few decades of the millennium the global economy has fundamentally changed competitive conditions and fast technological advancements have challenged the firms' ability to adopt novel ideas. Traditionally strategy has promoted continuity. Planning and control have imposed predetermined patterns of action into organisations. But the rapidly changing environment has introduced radical change into strategy processes.

Sometimes this change is “turnaround”, a necessary revolutionary change in everything that an organisation does. Sometimes the change is gradual adaptation to the new situation. Changes are difficult for organisations. Collective beliefs are a pervasive source of inertia, rules and routines reinforce organisational belief structures, constrain behaviour and experience and this way make changes difficult (Mezias et al. 2001, 74). Strong beliefs and boundary systems are important strategic control means to create impetus for the new emerging agenda. Diagnostic systems monitoring critical success factors as well as interactive systems used to review these success factors are essential. (Simons 1995, 134-137.)

Empirical research confirms the common assumption that top executives determine new corporate strategies. The experience of these executives predicts the likelihood and content of major changes. Several authors have noted that large firms have been under considerable pressure from institutional investors and other external constituents to increase the board’s role in strategy making. A traditionally active board has monitored financial results and responded to poor performance by firing the CEO and selected a new one, an outsider perhaps who can bring new strategic direction for the firm. Boards can exert influence in determining the firm’s strategic direction by selecting a new CEO who has prior experience with the chosen strategy. (see Westphal and Fredrickson 2001.) This type of response is typically copied. Those key individuals whose behaviours and attitudes do not align with the new strategy are replaced. By this way the old behaviours are unlearned. (Simons 1995, 134.)

A considerable number of studies imply that the control systems in firms are related to the nature of their business (Burns and Stalker 1961; Hopwood 1974; Gupta and Govindarajan 1984; Goold and Campell 1990).

Miles and Snow (1978) studied how companies adapted to their environment and classified four different types of generic strategies:

1. *Prospectors* seek continually new market opportunities as a means to outweigh competitors. They initiate changes in the market place and they are innovative but meet difficulties in stable environments.

2. *Defenders* concentrate on stable and limited range of businesses and focus on improving the efficiency of their operations. Their competitive edges are cost-efficiency, quality and service.

3. *Analysers* are a hybrid of prospectors and defenders. They aim at production efficiency but they also search for new business opportunities. They defend their market position but analyse the actions of their innovative competitors and take advantage of their market discoveries.

4. *Reactors* represent a group of enterprises which have not been able to adopt any of the previous strategies. Their responses to the environment are not based on a plan but incremental decisions forced by market changes.

An organisation's control systems should be congruent with its strategy. Defenders emphasise cost control, trend monitoring and efficiency and rely on accounting controls, whereas prospectors are more likely to scan the environment for new opportunities, comprehensive planning and adoption of subjective performance measures, but their use of accounting controls is limited. (Miles and Snow 1978; see also Wilson 1995, 187). Research evidence even suggests that prospector companies use competitor-focused accounting more and perceive it more helpful than companies employing other competitive strategies (Guilding 1999, 592).

Simons (1987) studied 108 firms and found that firms following different strategies do employ accounting control systems in different ways. High-performing prospectors seem to attach a great deal of importance to forecast data in control systems, setting tight budget goals, and monitoring outputs carefully. However, cost control is reduced. Large prospector firms appear to emphasise frequent reporting and the use of uniform control systems which are modified when necessary. Defenders, particularly large firms, appear to use their control systems less intensively. Negative relationships were noted between performance and attributes such as tight budget goals and output monitoring. Defenders emphasised bonus remuneration based on the achievement of budget targets and tended to have little change in their control systems. (Simons1987, 370.)

Goold and Campbell (1990) studied the centre's strategic influence on business units and found three main strategic management styles. *Strategic planning companies* have a small number of core businesses and very often a global approach. They have high planning influence and flexible controls. *Financial control companies* grow through acquisitions. The business units have clear targets and the focus is on financial performance. These companies have low planning influence and tight financial controls. *Strategic control companies* evaluate business units' strategies broadly and actively rationalise their businesses. The performance measures are financial and non-financial. The centre has low planning influence but tight strategic controls. (Goold and Campbell 1990.)

Porter (1980) also suggests that the generic strategies imply differing organisational control procedures. Overall cost leadership requires: tight cost control, frequent and detailed control reports, structured organisation and responsibilities, and incentives based on meeting strict quantitative targets. Differentiation requires strong co-ordination among functions in R&D, product development and marketing. Measures and incentives are subjective

instead of quantitative. Amenities attract highly skilled labour, scientists, or creative people. Focus strategy requires combination of the above policies directed at the particular strategic target. (Porter 1980, 40-41.)

Govindarajan and Fisher (1990) collected data from business unit managers in 24 Fortune 500 firms and studied strategy, control systems, and resource sharing and their effects on business unit performance. Their study shows that firms should not use a standard control system to manage all their SBUs. Control systems are an important ingredient in implementing strategy and should be tailored to the strategy of individual SBU. For increased effectiveness, cost leadership and differentiation strategies need to be matched with output and behaviour controls respectively. Executive leadership characteristics, structural variables, and control systems contribute differentially to the effectiveness of SBUs practising differentiation and low-cost strategies. In particular, in a differentiation SBU, the greater the R&D experience, the intentionality of the general manager's locus of control, and decentralisation, and the lower the emphasis on meeting a budget, the greater the effectiveness. (Govindarajan and Fisher 1990, 280-281.)

Langfield-Smith (1997) points out the obvious parallels between the Miles and Snow typology and Porter typology and suggest that there is a level of consistency between the organisational and control characteristics of a defender and cost leader, and a prospector and differentiator. Process management doctrines have promoted customer orientation as a strong motivator for strategic changes (see e.g. Vaivio 2001). Tuomela (2000) suggests that the relationship between customer focus and strategy is dynamic and combines both typologies interestingly to customer orientation. Differentiators and prospectors need to emphasise customer focus particularly. These firms are constantly seeking new opportunities to fulfil emerging customer needs. For defenders constant monitoring of relevant customers is especially important. Analysers have their interest in competitors and not so much in customers but they also have to acknowledge customer needs. (Tuomela 2000, 50-51.)

Global competition is a challenging contextual issue in strategic control (Prahalad and Doz 1987; Bartlett and Ghostal 1989). Recent strategic literature addresses parent-subsidiary relationships (Taggart 1998; Delany 2000; Raynor and Bower 2001; Birkinshaw and Hood 2001), but this issue seems to be missing almost totally in management accounting literature. The rest of this section investigates the ideas of Dent (1996) and Mouritsen (1995), two of the few papers on this area.

Dent (1996) identifies five challenges for management accounting, and in particular for planning and control. The first is to foster multiple perspectives, the second is the co-ordination of complexity, the third concerns competitor

analysis and fourth concerns resource allocation. The fifth is to overcome centrifugal tendencies, developing a clarity of strategic intent, binding managers together world-wide and rewarding behaviour in the corporate, as opposed to local, interest. Dent points out the tentative nature of this list of challenges and calls for empirical research in progressive firms, which is scarce to date (Dent 1996, 268). He is aware of the many factors hindering the research. Different management contexts and styles, and the prevailing management norms in addition to technological, size and environmental differences makes the analysis difficult.

Dent's presentation of challenges is appealing but a considerable number of international firms acting globally are not global in the managerial sense. Dent refers to the Japanese model, in which the head office took a global perspective, viewing the world as a single market in which similarities were more important than differences and centralisation of decision-making permitted tightly integrated strategies, and central staffs kept close control of subsidiary operations (Dent 1996, 253). Some firms are going through a transition period changing their strategies to adapt to global competition and some firms have consciously or unconsciously decided to act like multidomestic firms. There are distinctly different features in management accounting in multidomestic and global firms.

Mouritsen (1995, 304) shows some differences between a multidomestic conglomerate firm and a global integrated firm. Multidomestic firms balance risk through portfolio management and the centre enhance the management of financial resources. Corporate co-ordination of subsidiaries is weak. In contrast, global firms internationalise the value chain and the centre co-ordinates the subsidiaries strongly. Subsidiaries carry out and support a detailed strategy developed at headquarters. Different roles of planning and control systems are indications of different strategic approaches and relations to subsidiaries. Multidomestic firms establish budget targets for each individual subsidiary with an emphasis on accountability. Performance measures are financial, few and aggregated oriented towards individual organisational entities. On the other hand, global firms use budgets to integrate activities across subsidiaries with an emphasis on products and markets. Performance measures are many and diverse financial and non-financial orient the global firms towards products and markets.

To summarise the findings from these different sources it is possible to state that different types of organisations tend to employ different types of strategies contingent to their business environment and they adopt strategic planning and control systems accordingly. When businesses evolve firms change their strategies as well as their control systems, even though these development processes may be constrained by different factors. In large firms

the more stable and externally controlled the organisations are the more they rely on formal systems with concrete substance. The more complex and abstract the organisations are the more they use informal means and subjective abstract information. The control of strategic action requires also multiple externally and future-oriented measures.

Partanen (1997) has pointed out the importance of appropriate cultural approach in ABC implementation project. In his study the first ABC project of a case organisation failed but the second one six months later led to implementation due to the project's better fit with organisational culture. Malmi (1997b) suggested that some of the reported ABC failures may not have been failures at all. The perspective on evaluating the ABC project has only been narrow. ABC project can be of great value even without subsequent implementation. It may have value even if it does not lead to any specific actions if the project manages to convince that the situation is satisfactory. In the case reported by Malmi the group management benefited from the project and perceived it as success, whereas the local unit management did not regard the new system as valuable for their day-to-day management of the factory. (Malmi 1997a, 84-86)

The traditional concept of change makes some assumptions. First, change is a process when an entity passes from one state to another. Second, the characteristics of the entity are well-defined and they are observable in both states. Finally, the process is linear and rational. To study strategic management accounting in a strategy formulation and implementation context requires a wider definition of change concept, which allows vague definitions of the states of organisational practices and takes into consideration the non-linearity of development processes (see e.g. Quattrone and Hopper 2001).

2.6 Empirical evidence of SMA practices

This subchapter presents the results of the current SMA research which presupposes the existence of SMA as a set of management accounting techniques for strategic purposes. SMA as an explicit subject in management accounting research is much more scarce than rather exhaustive research on individual practices such as ABC and BSC. Relevant results of these latter studies will be addressed later in the thesis.

Empirical SMA investigations are either surveys or case studies. The operationalised SMA practices used in analysing and monitoring the strategic position are usually well-structured and suitable subjects for surveys. Those SMA practices used in the development and formation of strategies are more diffuse, and to date there are no attempts to list and define such practices

comprehensively. SMA case studies in strategy making context lack generalisability but offer a possibility to deeper analysis and even a possibility to create hypothetical theories of this area of SMA.

Guilding et al. (2000) identified 12 strategic management accounting practices: attribute costing, brand value budgeting and monitoring, competitor cost assessment, competitive position monitoring, competitor appraisal based on published financial statements, life cycle costing, quality costing, strategic costing, strategic pricing, target costing, and value chain costing. They studied these SMA practices in large companies in New Zealand, in The United Kingdom and in the United States and measured SMA usage, perceived merit of SMA and the familiarity with the term "strategic management accounting".

Their study revealed that strategic costing practices are rare in organisations. Strategic pricing was the only practice in this group that scored even moderately. Competitor accounting appeared to be more developed than strategic costing practices. Again, brand value monitoring and budgeting scored relatively low. Generally, perceived merit scores are significantly above the usage scores. It appeared that "SMA" is a rarely used term in organisations and that appreciation of the term is limited (Guilding et al. 2000.) An obvious shortcoming in their study is the exclusion of activity-based costing and strategic performance measurement.

Lord (1996) applied case method in studying SMA practices. Her case evidence shows that the firm had successfully collected and used competitor information without any input from the management accountant (see also Järvenpää 1998, 360). This leads her to conclude that the techniques for gathering and using information necessary for survival in a hostile and competitive environment may be part of the operational management of firms (Lord 1996, 364). The findings in Dixon's (1998) case study suggest that the collection and use of competitor information for strategic purposes can be achieved without implementing a formal SMA process. Roslender and Hart (2000, 2003) conducted a field study which confirms with the findings in the previous studies. There was nearly total absence of any reference to the techniques and practices of SMA encountered during the interviews in eight companies, but they recognised that a new subset of SMA developments is being introduced as accountants and marketers begin to measure the performance of brands.

Coad (1996) has conducted a methodologically interesting study which carries a close resemblance to this research. His study applies action research methodology and strong participation. The researcher was involved in the use of SMA to inform the bid decision in a compulsory competitive tendering project. His study is a serious attempt to take the SMA discussion to the cognitive level. The researcher takes a heavy dose of SMA knowledge, enters

an organisation and studies himself and other key actors in a business problem solving situation. His effort is noteworthy but we can ask with good reason if his case study has nothing to do with strategy process. His case is about a single decision-making process, where the researcher has a remarkable role.

Some researchers have studied the links between strategy and new management accounting techniques without explicitly referring to SMA. The studies provide evidence of management beliefs that changes in manufacturing strategies to emphasise quality, flexibility, dependability and low cost should be accompanied by changes in formal performance measurement systems to place greater emphasis on non-financial, operations-based measures. The results suggest that both advanced technology and advanced management practices in interaction are important in explaining management choices of performance measures. (Perera et al. 1997; Abernethy and Lillis 1995.) The results suggest that effective organisations benefit from ABC techniques combined with traditional accounting techniques but they also suggest an inconsistency in low performing organisations when high benefits from ABC are combined with low benefits from management techniques. Furthermore, the results support the importance of strategic planning techniques in high-performing organisations including both low price and product differentiation strategies. (Chenhall and Langfield - Smith 1998a.) Important contextual factors in ABC implementation are: cost distortions, non-job nature (low task uncertainty), and large size. The results suggest also the impact of social elements in implementation: top management support, non-accounting ownership, and training. (Krumweide et al. 1998.) Prospector firms make greater use of, and perceive greater helpfulness in, CFA practices. Firms pursuing strategic mission of growth ("build") have a greater propensity to use strategic pricing and costing and perceive greater helpfulness also in competitive position monitoring and competitor appraisal based on published financial statements. Firm size is positively related to greater use of, and greater perceived helpfulness in, CFA. Competitive position monitoring was found to be the most widely-used CFA practice and it was also perceived to be of the greatest help. Competitor cost assessment and strategic costing ranked lowest in terms of usage. (Guilding 1999.) In terms of contingency research, the emphasis in strategy process on growth, diversification and new technology favours more future and external orientation of MA.

So far we can state that researchers have taken efforts to find SMA in organisations but with minor success. Different opinions also exist about the criteria which determine whether a management accounting practice qualifies as SMA due to the fact that the SMA concept has lacked generally accepted definition. We can also claim that the techniques used in processing this information are diffused in different parts of the firm. The following chapter

describes how the division managers in the case organisations apply SMA practices during the strategy process, and how the social roles of SMA practices change during the different phases of the process.

2.7 Summary of the literature review

This chapter started by a review of prescriptive strategy schools which give the normative recommendations for the act of strategy making. These strategy schools make claims of accounting information for strategic purposes but they do not make any explicit propositions for management accounting methods or mention strategic management accounting.

The second subchapter introduced Simons's (1995) framework of strategic control which widens the concept of strategic control from the more traditional concepts of diagnostic control systems to interactive, beliefs and boundary systems. Simons's study suggests the interactive usage of diagnostic systems which are in the core of SMA practices. Simons's framework thus recognises the interactive role of management accounting practices.

The third subchapter explored and categorised the means of strategic management accounting to support both the strategy making and the control of its implementation. The conclusion from the typology is that the academic definitions of SMA implicitly or explicitly emphasise certain assumptions of the strategy work in organisations focusing on the financial analysis, portfolio development, multidimensional monitoring of strategy or formulation of a new strategy (see appendix 2). The framework suggested grouping of SMA practices according to the categorisation. The next subchapter presented in more detail normative arguments for the three SMA practices, ABC, BSC and CFA which will appear later in the case settings.

The fourth chapter evaluated the present knowledge of management accounting change generally to gain insights into the possibilities to introduce and implement new SMA practices. The literature review in this section emphasised contingency theories and argued for the environmental and successive strategic change as drivers of the change in management accounting, although the empirical evidence seems to be contradictory as major changes in the environment have not caused changes in management accounting. As such these contradictory findings form an interesting background for this study.

The last subchapter presented the results of the research concerning the actual usage and appreciation of SMA and SMA practices. SMA and SMA practices appeared to be rare in organisations. Practices such as ABC and BSC are well-diffused but their inclusion in SMA practices seems to be problematic for researchers. Case research of SMA in the strategy process is scarce and

longitudinal research, comparable to this study, is non-existent. The literature review presented a typology of SMA definitions and practices and suggested that SMA as a combination of individual practices is supposed to be contingent to the nature of the strategy process and strategy itself.

3 THE DEVELOPMENT OF SMA CONSTRUCTS

3.1 Introduction to the empirical part of the thesis

The aim of chapter 3 is to describe and interpret the development, application and implementation of SMA constructs in two strategy process settings. The researcher has participated in both processes and made continuous interventions, as any other actor in the setting and contributed to the construction of managerial systems. This chapter relates the researcher's experiences and observations to the normative SMA literature. It also compares the SMA constructs in both strategy processes using the framework of theoretical SMA definitions and practices which was the result of the literature review in the previous chapter.

Case research has been an established form of studying accounting since the early 80's when Hopwood (1983, 303) claimed that *"What is needed are more substantive investigations orientated towards providing bases for understanding or explaining the workings of accounting in action."* Later Kaplan (1986, 445) advocated for case studies arguing *"... our initial effort to observe and describe management accounting practices must capture the richness of the organisational environment. Initially case studies would seem to provide the ideal vehicle for communicating these deep, rich slices of organisational life."* Since constructive research is empirically driven a natural choice in this research is case study method[5].

This chapter aims at a rich account of the phenomena in the field. Richness presupposes a deep appreciation of accounting in organisational settings and of information more broadly (Ahrens & Dent 1998). The technical SMA constructs lay in the core of this thesis, but the theoretical contribution brings to the foreground the roles of SMA constructs in a social setting. Relating the empirical events to the normative literature highlights the seemingly irrational and illogical phenomena. Contrasting two cases illustrates the organisational and human properties which qualify the different outcomes of the construction and implementation processes. The irrationalities, illogicalities and focus on individual managers provide the basis for a subsequent social analysis which aims at an explanation of the events.

[5] Action research and case study method see Pihlanto 1994; see also Kasanen et al. 1993.

The first case organisation was the copper semiproduct manufacturer Drawn Copper Products Division (DCPD) in the Outokumpu Copper Products business area (OCP) in the Outokumpu Group. At the beginning of the research, in 1995, OCP management established DCPD by uniting three manufacturing business units at Outokumpu Poricopper in Finland, one in the USA and a warehouse in England under the same newly recruited manager. During the research period a manufacturing business unit started in Malaysia in 1998 and a rod extrusion machine workshop moved from the technology business area to DCPD in 1996. The new division manager initiated a strategy process which strived for customer-oriented global growth. A major part of this process focused on the construction of various strategic control systems. In 1995-1997, the researcher witnessed a process during which the DCPD strategy process disengaged from its links to actual decision-making at OCP and the SMA constructs became loose ad hoc exercises. However, after the dissolution of DCPD some of the information systems and SMA-techniques penetrated the company during 1998-2001 but in a different form than during the DCPD strategy process.

The second case organisation was the industrial maintenance service provider KCI Plant Services division (KCIPS) in the Nordic Region Maintenance Service business area in KCI Konecranes group. The legal and operative organisations are separate. The parent company of the division's business units was Konecranes Nordic Oy (KNC). At the beginning of this case research, in 1999, KCI Konecranes management created KCIPS by uniting four profit centres under the same manager who was recruited simultaneously. The new manager strived for growth. During the period 1999-2001 the sales of KCIPS grew by over 100% and the number of profit centres increased from four to fourteen organised in four business units. The researcher participated in the KCIPS manager-driven strategy process which managed to direct the growth and unite the opposite ideas of future. The major emphasis in the strategy process was to construct a strategic performance measurement system which was later successfully implemented. Here the researcher witnessed a successful formulation of a new strategy and an implementation of a strategic control system to monitor the performance of the business units and the division totally. In summer 2002, after a successful strategy process, the company made an announcement that a new division was established.

Both case settings demonstrate many similar features: division level organisation, mature business, technological business rationale, emphasis on growth etc. Even the managers have similar properties in spite of the fact that the DCPD manager had a business degree and the KCIPS manager was an engineer. Both of them were experienced managers and had already shown

their capabilities. They were also professionally well-informed concerning the new practices of managerial conduct. It is worth pondering how the outcomes of the processes could be so different.

The DCPD case describes and relates to normative literature the construction processes of three separate but linked SMA constructs in the context of strategy process. The first construct is a business portfolio, a customer-oriented grouping of strategic business areas (SBA), which replaced the more technology-oriented product grouping. ABC had a central role in the analysis of the business processes, cost structures and profitability of the different SBAs. The second construct is a strategic performance measurement system which was planned to support the new customer-oriented strategy. BSC literature inspired the construction process and the tentative framework emphasised the important strategic issues in the division. The third construct was the CFA- module in the business intelligence system. The system initiated by the business area headquarter was the only one of these three constructs to proceed to implementation but now CFA had a minor role.

The division adopted customer-oriented portfolio thinking and strategic ABC during the strategy process, but they were not implemented during the research process. The development of strategic performance measurement was successively laid down. The post-project documentation describes how the ideas nevertheless gradually penetrated the organisation during the following years.

This case is an example of a socially embedded technological business rationale. The disjunction of systemic rules between the dominating social systems and alien ideas of customer orientation and comprehensive strategic performance measurement created organisational resistance. On the individual level the persistence of the division manager's efforts to introduce new systems to replace technological and financial accountability and managerial control led to frustration and insecurity. The case describes the strategic conduct of the division manager and his reflexive monitoring, which reproduces the corporate technological rationale, but which simultaneously produces new structural properties, continuous strategy process, customer-based segmentation and comprehensive measurement. These new properties evolve into new structural principles and widen the narrow technological business rationale.

The KCIPS setting is similar to the DCPD case. The technological business rationale dominated the corporation even though the emphasis on strategic partnerships with customers had a deep impact on the corporate strategy. The central theme in this second case was the division's conformity with the corporate rationale and gaining the intra-organisational allegiance to the new

business concept which widens the strategic domain of the company significantly.

The KCIPS case focuses on the development of a managerial construct, a strategic performance measurement system which was a result of an interactive process inside the division. The development process illustrates the structuration process of a new business concept, where a SMA practice, a balanced scorecard type of strategic performance measurement system, has first a role in the division manager's communication of important issues in defining the target market and in the identification of personnel qualities meeting the needs of the market. The second role of the new practice was a modality, interpretative scheme, which defines the strategic intentions of the division manager. The emergence of the third role, signification structure, was observable during the implementation. The formal establishment of a new business concept begins the phase when the system looses its link to the specific agent, the division manager. The case illustrated the production of a new business concept inside the domain of the old business rationale.

The empirical part of the research report is organised around the two case narratives in a similar manner. Descriptions of corporate contexts, research settings and the research process proceed with the description of the SMA constructions in their strategy process context. The descriptions of the managerial systems argue for innovativity and originality in the adoption and implementation of widely known SMA practices. Both case descriptions end with concluding comments on the SMA constructs. The chapter finalises with interpretations of the empirical material by comparing the observations to the normative literature.

3.2 Outokumpu Drawn Copper Products Division 1995-2002

> Paris, March 1996
> A beautiful spring morning was breaking on the outskirts of Paris. A group of men were starting their day by walking on the lawn in front of a nice cottage which had been renovated into a conference room. The air was filled with peaceful singing of birds and the mumbling of men. A slight breeze carried the smell of horses from the nearby stables. The key persons of the Drawn Copper Products Division with consultants were starting their first day of a two-day strategy seminar. The room was organised in a typical horseshoe manner. The division manager was standing in the middle and was wishing everybody welcome to Chantilly. He

took a heap of transparencies, stepped to the overhead projector and started his introduction.

"…these days will be an important step on our never ending journey towards a clearer business understanding, including 1.Vision 2. Global niche strategies 3. Division and sector strategies 4. Focus and co-ordination of operative development, and 5. Function strategies. We will discuss the presentations given by SBA task forces and the decisions regarding our next actions and processes…"

A well-prepared transparency followed one another. The division manager was well aware of the technology focused task he had been given, but openly stated that a clear market need anticipation was missing except in one rebellious unit which constantly anticipated customers' reactions and adjusted its actions accordingly. It seemed that in most business units the tail was waving the dog, business control was dominated by production push. Even the main financial measure ROCE seemed to be too limited and the cost structure was dominated by costs incurred by internal transactions, arbitrary allocations and company agreements. The controllability of the fixed common costs in the Finnish business units was minimal.

"… the division is characterised by a collection of different products, processes, commodity goods and special products all with different customer requirements. Is it possible to master various business needs simultaneously? Yes it is, but this complexity requires strategic clarity, flexibility and cost effectiveness…" The roots of the many quality problems obviously went deeper than to the last operator on the line. "… Customer-oriented SBA structure enables us to manage the complexity. Perhaps in the near future we shall see a director of its own in everyone of the SBAs…"

3.2.1 The corporate context 1995-1998[6]

Outokumpu is a versatile metals group operating world-wide. Outokumpu's expertise ranges from mining, through metallurgy to the global marketing of metals, wrought products and related technologies. In its business, Outokumpu focuses on base metals production, stainless steel, copper products and technology. Outokumpu's base metals operations encompass zinc copper and nickel mining and metal production. The integrated production chain of stainless steel in Northern Finland comprises Outokumpu Chrome's chromium mine at Kemi and ferrochrome smelter in Tornio and the steel melting shop, hot rolling mill and cold rolling mill on the same site in Tornio. Outokumpu is the world leading fabricator of copper products, the only company in the sector to have substantial production in North America, Europe and Asia. These technology products cover plants and processes, machinery and equipment, as well as engineering and project management services for the mining and metallurgical industries.

Outokumpu was formerly a fully state-owned company, but gradual privatisation had decreased the state ownership to 39.9 % (annual report 2001). The Outokumpu group was organised according to their main product lines into four sub-groups known as business areas. The business areas were: Stainless Steel, Copper Products, Base Metals and Technology. The parent companies of all the four business areas were wholly owned by Outokumpu Oyj. Year 2001 Outokumpu Steel and Avesta Sheffield were combined into the independent stainless steel producer AvestaPolarit. Outokumpu owns 55 % of AvestaPolarit. Year 2002 Outokumpu acquired the remaining 45 % of the shares.

According to the annual reports all business operations recognised the crucial importance of the customer, as well as good profitability and responsibility for the environment. Outokumpu's special strength laid in technological expertise and in the ability to apply it to generate added value for customers. In recent years Outokumpu has built up the share of higher added value products in the portfolio. The technological expertise served to ensure that the methods employed were the most effective ones and that they were safe and as environmentally sound as possible. The Group's main strategic objective was to take maximum advantage of the potential inherent in the efficient, integrated stainless steel production chain in Kemi-Tornio. Outokumpu seeks to achieve profitable growth in its operations and to maintain a healthy financial structure.

---

[6] The information about Outokumpu's markets, products, organisation and strategy are derived from the annual reports 1995-2001.

The backbone of the financial control was corporate reporting. The corporate headquarters maintained and distributed an instructions manual which applied the US Generally Accepted Accounting Principles (US GAAP). All the subgroups were tertially responsible for producing their financial reports according to these standards. The forms were filled and mailed manually in 1995.

The formal long-term planning consists of few key figures. The format of plans has varied according to OCP management's instructions. The short-term planning focused on the budget. The budget process started in September when the budget assumptions were published. Under several years the budget process had taken several months to accomplish; usually the process ended when the year-end reporting started. The process needed several rounds because the basic assumptions changed several times. Very often the organisational structure of the business area had been changed. The budgeting process was very laborious for accountants due to the integrated nature of the business processes.

A very important issue in the company is the hedging policy of metal and currency exposure. The company had a strict rule that all risk has to be totally (100%) covered by internal hedging operations. The corporate treasury was responsible for the external hedging with financial institutions.

3.2.2 The research setting

The case organisation was the Drawn Copper Products Division (DCPD) in the Outokumpu Copper Products business area (OCP). The division consisted of five different manufacturing business units on three continents, one combined sales office & warehouse and one rod extrusion machine workshop. The division was an industrial and commercial supplier of copper semiproducts. The business was characterised by its relative complexity, in other words the multitude and heterogeneity of customers, products, raw materials, processes, technologies etc. The products were relatively high priced because of conscious withdrawal from high volume, low value added commodity markets. In spite of several management and organisational changes, the total profitability of the business units in drawn copper business had been mostly weak or modest since 1980. The business units, their location and products are presented in Table 1. The Nippert Company, Thatcher Alloys and Holton Machinery were acquired through acquisitions. The Nippert Company's general manager was a member of the family which formerly owned the company.

Table 1 Strategic business units in DCPD 1995-1998

Business unit and location	**Main products**
Special Products	hollow conductors, welding
Pori, Finland	tip mtrls, cutting nozzle mtrls
Rods and Profiles	bus bars, commutator mtrls,
Pori, Finland	cold heading mtrls
Machined Copper Products	anodes, cooling elements,
Pori, Finland	molds
OCP Malaysia Sdn Bhd (-98)	rods, anodes
Pasir Gudang, Malaysia	
The Nippert Company	welding cap electrodes, rods,
Delaware OH, USA	cold formed parts, fittings
(Nippert-Dawson, a joint venture England)	
Thatcher Alloys LTD	sales office & a warehouse
Wolverhampton, England	
Holton Machinery LTD (-96)	rod extrusion technology
Bournemouth, England	

Drawn Copper Products business sector was divided into two divisions, Drawn Copper Products Division and Alloy Wire Division, in 1995. An American former business unit manager led the business sector which had its headquarter in Chicago, USA. A new division manager was recruited and placed in Pori. He was given orders to plan and execute a growth strategy based on a new cost-effective rod extrusion technology. Other goals were to integrate the different business units with new strategy and to immediately improve the profitability and efficiency measured in tons per employee. The new manager himself emphasised a strategy based on real and changing customer needs. An implicit objective was to increase the business area management's supervision of badly performing Finnish units. The OCP management had a short-term urge to manage the different units in DCPD, as the division manager recalls:

> *"The internal competition between the units was getting harder. Some incidents, when a unit in the USA and a unit in Europe were offering the same products to same customers, revealed that the co-ordination did not work. From the OCP perspective there was an immediate need for co-ordination." (DCPD manager, interview 17 December 2001).*

Rods and Profiles business unit and special products business unit shared the same premises. In the past these two units formed one profit centre,

Drawing Mill, which had a rather traumatic history. The events had culminated at the beginning of the 1990s. The Finnish currency was devalued in the autumn of 1991. Helped by this competitive advantage sales efforts were increased. Higher volumes were to absorb fixed costs. The management had high hopes. Because free capacity was available, sales were boosted partly by moving back into lower priced commodity products. The production volume increased but not enough. Several problems occurred and constrained the production. Customer complaints started pouring in, delivery reliability was poor, productivity measured in tons of products divided by number of personnel was relatively low compared to neighbouring business units, and administration seemed to be in a constant mess. Profitability did not improve as planned and the personnel were stigmatised as bad performers. This opinion was expressed in local headquarters and other business units with practical daily jokes about people who always had to be "drawn" behind the "good" units. The new manager was received by a seriously depressed and unmotivated personnel in some of the business units.

Table 2 The net sales and operating profit figures of the Outokumpu Group and Outokumpu Copper Products (meur).

	1995	1996	1997	1998	1999	2000
Outokumpu						
NS	2851	2783	3205	2889	2909	3693
OP	267	93	228	55	174	427
OCP BA						
NS	1226	1261	1391	1245	1220	1532
OP	65	46	14	18	53	67

Table 2 shows the net sales and operating profit figures of Outokumpu Group and Outokumpu Copper Products and Figure 11 illustrates the DCPD organisation and its position in Outokumpu group.

The financial management of OCP used a Consolidating and Reporting (CoRe) system. The system operated in a global intranet environment. The system integrated and reconciled the financial accounting and management accounting in the matrix organisation.

The monthly reporting consisted of two sets of reports. The first report was a flash report of monthly sales and incoming orders. The second one was the full monthly report of profit and loss and balance sheet. The latter report also included the budget figures and the interim reports included yearly forecasts.

The reported key figures were almost totally financial. Occasionally the information was supplemented by mailing special forms containing data that was especially requested by the OCP management. In many ways even the financial analysis of the business unit was a relatively new phenomenon in the organisation but the basic management accounting controls were in place and functioning. The personnel from the shop floor to the management was remarkably familiar with accounting language. The financial reports and follow-ups had become routine patterns of action, but it was not welcomed by all members of the organisation (see Kasurinen 1999, 57).

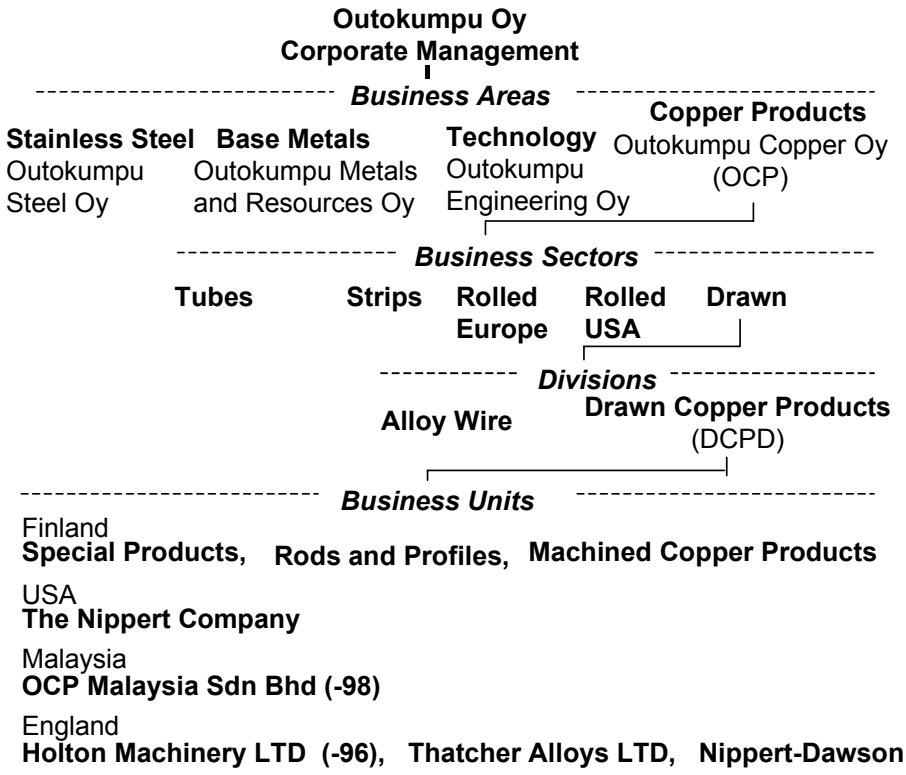


Figure 11 DCPD in the Outokumpu Group 1995-98

Since the 1970s a multilevel decentralisation had been taking place at Outokumpu. Separate tasks and whole functions were decentralised from the corporate headquarters to Pori, and further to different business units, when the profit centre organisation was created. The possession of all the functions of a company was regarded as the key criterion of a business unit. Most of the business unit managers supported decentralisation and actively influenced the

transferring of more functions to their units. They were especially interested in having true control over their costs. Each business unit had its own controller. The controller function was well established but the business unit managers were not so enthusiastic about having a bookkeeping function in their units. The managers claimed that it was too far from their business processes and perfect for outsourcing. Small units which lacked the needed size to cover the costs of expert functions, experienced decentralisation as a loss of cost effectiveness.

Also the general attitude towards a new OCP's BPCS business control system was negative. BPCS was an integrated system which could be categorised as an enterprise resource planning system. Old, centrally maintained but specially tailored systems were abandoned and replaced by a standardised system throughout the whole copper business area in the middle of the 90's. In Pori the old local data processing department was successively decentralised and the IBM mainframe became redundant. This project was initiated by business sector directors, but was already in the planning phase seized by the finance director of the copper business area who imposed a BPCS system chosen by him and his staff. The project met resistance in many business units and practically only the financial module was implemented; the rest of the control systems were significantly modified.

In a sense there was a transition period when the decentralisation of operative systems and people was in progress. The decentralised systems served the strategic purposes of controlling the operations of different business units. Paradoxically the message from OCP management was that operative systems, and among them the management accounting systems, were under the responsibility of business unit management, but as expected, OCP management had the final decision on the technical solution. This transition period demanded considerable effort in the business units and it was especially laborious to controllers and other accounting people.

Although the planning influence was relatively low, the formal strategic planning process was an extensive number crunching process during the first decade of the business unit organisation at OCP. The most influential means of control was the investment appraisal process which was tightly controlled by OCP management. The investments steered practically the strategy. From the initiative of OCP management the divisions had experimented with the strategic tools acquired by the corporate headquarter. PIMS was one of these tools. EVA® -concept was also presented to business area management without any subsequent actions.

The centre initiated the formal strategic planning. The business units had no tradition of strategic planning and the centre's staff imposed the methods they used. The units had no strategic vocabulary. The monitoring of the business

units strategy concentrated mainly on the efficiency of the new technology. Financial indicators and few key non-financial measures monitored the performance. The formulation of strategies was mostly unofficial. Emergent strategies became realised through incremental decisions, customer by customer.

The organisation resembled a financial control company with low planning influence and tight financial controls. The diagnostic and boundary systems were dominating control mechanisms (see also Kasurinen 1999, 61, and 2002a). The reporting system was the only standardised link between the units. There were no standardised codes for chart of accounts, products or customers. On the other hand the chart of accounts in the Finnish units was centrally maintained. Also the cost accounting principles vary. The business unit in the USA used absorption costing which was integrated to the production control system. The labour and material costs were continuously maintained. The product costing in the Finnish units was carried out randomly and it was based on samples of products in different product groups.

3.2.3 An overview of the research project

The researcher was appointed as the controller of the DCPD in 1995 after a 4-year career in the company as the local financial manager in Pori. The new manager was keen to start co-operation with universities and encouraged his controller to continue his studies and write a licentiate thesis about strategic control which was a clear managerial problem in the new division and at the same time a hot academic issue. As a controller the researcher had a full access to the division's documents and a right and an obligation to participate in the divisional strategy meetings. A part of the controllership was provision of accounting information for the strategy process. The internal accounting data was acquired from the business units and processed by the units' own staff or by consultants. The external data was acquired from public databases and from the individuals in the organisation. The controller's role was to compile, visualise and interpret the information. The fresh scholarly background enabled the understanding and the usage of various accounting methods and also helped to conceptualise the complex situation. The controller was to introduce and implement management accounting techniques and finally to take part in the construction of a strategic control system.

From the beginning it was clear that this strategy process would differ fundamentally from the annual long-term planning sessions, where the financial key figures were "guesstimated" for the next 5 to 10 years and reported to the business area headquarters. Although there was a checkpoint,

when the strategic ideas were presented to the business area management, the process would last until the new strategy was crafted and implemented. In fact, this strategy process would be continuous. This was the first time a continuous strategy process was introduced in the company. This type of strategy making was also gradually adopted on the business area level.

In the autumn of 1995, when the strategy process started, the first task was to restructure the complex business into more manageable entities. The business was grouped into strategic business areas (SBA). Each SBA was analysed: markets, relative market shares, profitability, competitive position, cost effectiveness etc. Activity-based costing was the main accounting method. The performance measurement of the new technology was standardised. Target costing was used to determine the cost levels of the low cost products produced by the new technology. Because of formality of the accounting data, management accounting information and financial reports were insufficient for the strategic decision-making, information was mainly produced by ad hoc projects. The results were combined into matrices which gave a coherent picture of the total DCPD business.

By the end of 1996 every SBA had a strategy of its own. These strategies were scrutinised in the strategy evaluation team (SET) and the goals were prioritised. Competitor information was collected into a databank and competitor-focused accounting was taking a form. At the beginning of 1997 the mission of the division was formalised and the goals were set. The strategy was communicated to the business unit managers and feedback was collected. During 1997 the goals were set to the business units. The responsibilities of SBAs, SBUs, division and different divisional functions were defined. The control systems were under discussion during the whole strategy process. The controller (researcher) developed a tentative performance measurement system, based on balanced scorecard literature and the ideas of a consultant. The performance measurement system included suggestions for an incentive system and interactive control systems.

The strategy process came to a dramatic end 14 November 1997 when the division manager left the company. The strategy process and the SMA practices developed during the process were documented and published in a licentiate thesis (Puolamäki 1998). The next year the author became a full-time academic as a senior lecturer and simultaneously started as a participant in a strategy process in another company. DCPD's staff gradually left the organisation either for another organisation inside the group or for other companies. R & D manager retired.

The strategy process in the Drawn Copper Products Division had a limited success in relation to new control systems, but it brought a multitude of changes and vital new information systems. The strategy process itself was

moved up to OCP headquarter level. Drastic changes in the organisational structure followed the strategy process. At the next stage the OCP general manager was suspended and the former DCPD manager had been rehired as a development manager in the business area headquarters at the beginning of year 2000. This gave a possibility to reopen the case and look for the answers to the question: why the balanced scorecard did not *"become the foundation for managing an information age organisation"*[7] and what were the consequences of DCPD strategy process at both the individual level and at the organisational level. There was also potential to find and explain general elements of social interaction in the organisational change process, where management accounting has a crucial role.

The research process continued with interviews during 2001. The aim of the second part of the study was to identify the factors which interfere with the design and implementation of strategic control systems. The idea was to set the events into a historical continuum, including the developments before and after the study covering a time period from 1992 until 2002. Figure 12 illustrates the research process.

The first sequence of this research began in 1995 and lasted until 1998 when the licentiate thesis of the researcher was completed. The second sequence 2001-2002 aimed at a social analysis of the events of 1995-1998. The interviews of the former division manager were mostly retrospective reviews of the past events. The second sequence also extended the research period, which made it possible for the researcher to overlook the discontinuities and see the development trends in a longer time perspective.

The strategy process was organised around two strategy meetings. The researcher, the business unit managers, division and sector staff, and consultants attended the meetings. All participants prepared for the meetings. Strategy Evaluation Team (SET) co-ordinated the preparations and evaluated the results of the strategy work. SET met 12 times during the strategy process in various compositions depending on the agenda. The dates of the meetings are given in Figure 12. In addition to these formal meetings several groups met to discuss strategic issues. The main part of the empirical material was derived in these meetings by participation, observation and collecting documents.

During the retrospective interviews the researcher realised that OCP adopted the idea of a continuous strategy process and year 2000 initialised a performance measurement system development project SPEED. Even the corporate management joined the advocates of BSC by launching a BSC project in 2001. The business intelligence system STRIDE was still in use. The OCP management had also been busy changing the labels and the boxes

[7] Extract refers to Kaplan & Norton (1996, 19).

in the organisation chart, but the life in the business units appeared to follow familiar tracks.

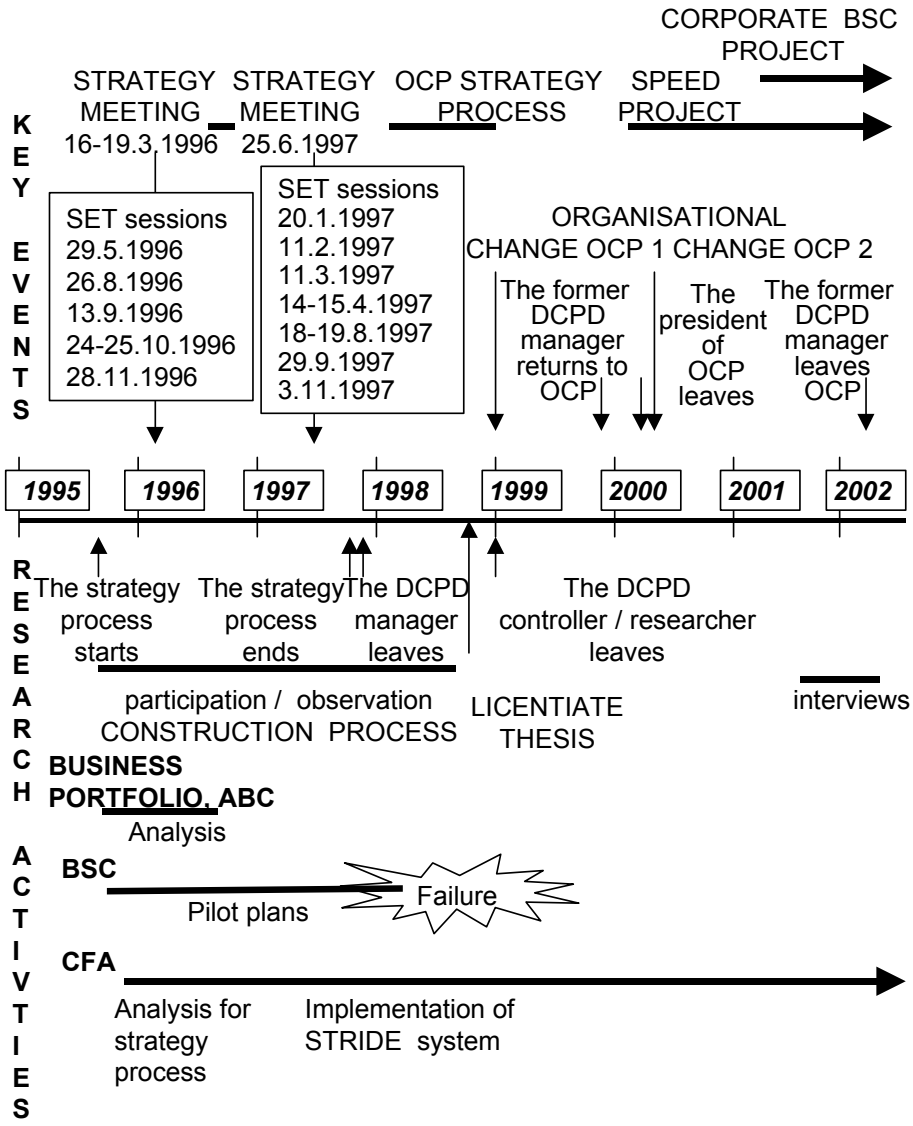


Figure 12 An overview of the research process in DCPD

The first study (Puolamäki 1998) brought forward the narrow scope of normative management accounting literature on ABC and BSC. This second stage seeks to refer to much broader issues such as the role of the manager and the role of the organisational culture context in the change process. The extension of the research scope entails the social dimension.

3.2.4 SMA constructs in the DCPD strategy process 1995-1997

3.2.4.1 Restructuring the business

The measures in the division were swift right from the beginning. The new manager brought numerous new ideas to the organisation. The development of new systems covered sales, production and accounting. A systematic development of personnel was started. OCP headquarter supported the personnel development and provided the services of the human resource manager. The new manager established contacts with different universities. The students and academics brought new insights into the organisation. The co-operation with the universities produced several MBA, graduate and post-graduate theses as well as other reports for internal use. Many of these reports have been used for triangulation purposes and as references in this study. New technology was emphasised. A logistics team, PROPPU, supported the implementation of the technology. Outside experts and consultants participated in the projects. They contributed mainly to three areas: IT structure, process development and strategy development. These actions started to generate command over divisional staff and over its structures, but decisions over raw materials and tangible investments resided in some other part of the organisation.

The division manager introduced the language of strategy and distributed TOTI-workbooks to business unit managers. The workbook gives simple instructions for strategic planning and it aims at producing a common terminology and a language of strategic business management. All the business unit managers had an engineering background, but the strong budget control and management by financial objectives had taught them the basic principles of accounting and the significance of the key concepts in accounting. The technological and accounting language dominated communication and co-ordination but now the language of strategy emerged. The new language challenged the previous mode of discourse.

The traditional perspective was efficiency. Contribution, result and capital turnover were important. The customer was a self-evident factor. Mainly the general economic trends explained the changes in total volumes. The company was almost totally production-orientated and technology-driven. Those units which had focused on specific key customers were customer-driven and also the most profitable. Later the DCPD manager characterised the company as follows:

> *"In the organisation there is blindness of our own engineering culture…In the past technology has been important and still it is in the*

focus…When it comes to investments, only big is beautiful." (DCPD manager 22 August 2001)

"The whole company as well as DCPD has the background of a mining company. The products were mainly sold to bulk-buyers in commodity markets. It was hard to get through the message that the customer is not a faceless mass." (DCPD manager, interview 17 December 2001).

The business intelligence manager shared these thoughts:

"We are so production-oriented in the company that we do not even understand the market and the new drivers in our business environment" (business intelligence manager, interview 8 November 2001).

The traditional way to understand the products was through their production processes, i.e. the products in a product group could be sold to different types of customers, further, the grouping was perceived partly too detailed. To begin with the strategy process, the business was restructured into new Strategic business Areas (SBA) so that the customers could be grouped according to their specific needs. The aim was to create a portfolio of different businesses in DCPD, in order to analyse the individual businesses (SBAs), markets, customers, processes, and naturally, the profitability. The strategy work would mean planning the portfolio and identifying potential new businesses which would fit the overall DCPD portfolio strategy, and also identifying the exit businesses. Already in the beginning, it seemed rather clear that the role of the DCPD management would be an effective management of the business portfolio.

3.2.4.2 Construction of DCPD business portfolio

The strategy process and positioning of the business started by grouping the different businesses into customer-based Strategic Business Areas[8] (SBA). The concept had been in use for several years but it consisted of 20 product groups. These groups did not exist in the reporting which followed production-based budget grouping or capacity grouping. The grouping into SBAs was not simple. The biggest problem was the products which were simultaneously sold

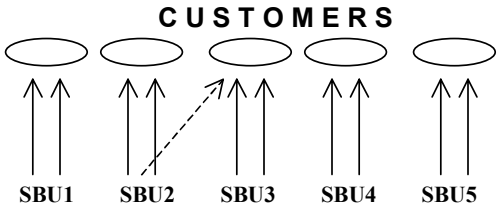
[8] SBA is a combination of products and market where the demand factors and competitive situation differ from those of other similar combinations so significantly that it should be treated as a separate business operation in strategic management (TOTI2 ; Ansoff 1984; 1988). SBU has high level of independence. It controls its own resources such as sales, production and product development. It has an identifiable strategy and identifiable range of competitors. The SBU structure is a tool for strategic development (TOTI2; Kotler 2000).

to totally different customer segments (SBAs). One of the SBAs was also a collection of very small, odd businesses. In spite of the difficulties, the 12 SBAs were considered to meet the requirements of the positioning work. Preliminary SBA task forces were formed and given the task to describe their understanding of the market potential and competitive position, and to make a suggestion for a strategic action plan. At the beginning of the strategy process the SBAs were: 1. Power generator materials, 2. Distribution and utilisation materials, 3. Electromagnet and induction coil materials, 4. Commutator materials, 5. Oxygen free, electronic grade copper materials, 6. Special copper materials for free machining and for welding utensils, 7. Cold heading materials, 8. Cold formed parts, 9 RSW electrodes, 10. Anodes, 11. Fabricated products, 12. Other. Even though the new structure did not fill the theoretical independence criteria of SBAs, it was the basis of the subsequent analysis. The rate of analysis varied. For instance, SBA 12 was so fragmented that further analysis was not meaningful. The variety of businesses was called DCPD's business portfolio. Figure 13 illustrates the restructuring of the business.

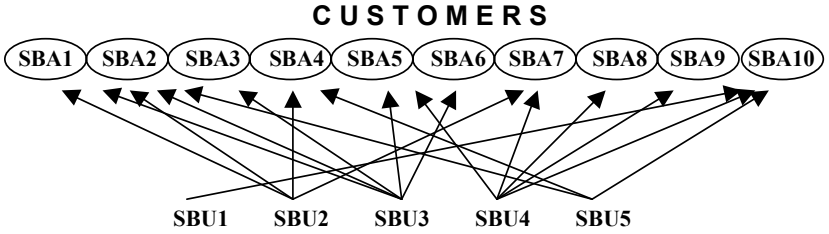
The structure of Strategic Business Units (SBU) was also problematic. The unit in the USA had a history of an independent company and it had all the functions an independent company needed. The company followed its own focused strategy. The Malaysian mill was still in the planning phase. The Pori units were part of a bigger entity which provided administration (human resource management, bookkeeping etc), research and development, maintenance and transportation. During the strategy process the business units were called strategic business units. The concepts are interchangeable referring to the same entities but SBU refers mainly to the business unit in the DCPD strategy process context, as business unit refers to the formal organisational status in the company.

The business units used mostly defender strategies (Miles and Snow 1978; see Puolamäki 1998, 95; Kasurinen 1999, 57-59, 2002a.) while adapting to the environment. The focus was on efficiency and traditional products. The division (as well as the whole company) could also be defined as financial control company (Goold and Campbell 1990; see Puolamäki 1998, 128-129; Kasurinen 1999, 56-57, 2002a). The units had tight financial controls and the pressure for profit performance was heavy. Planning had a moderate effect on actions. The ambition was clearly to transform the division's planning into a more prospector type of a strategy and change the planning and control influence into the type of a strategic planning company.

1. The business concept at the beginning of the strategy process



2. The construction of business portfolio



3. The aim in the restructuring of the organisation

DRAWN COPPER PRODUCTS DIVISION

	SBA1	SBA2	SBA3	SBA4	SBA5	SBA6	SBA7	SBA8	SBA9	SBA10
SBU 1										X
SBU 2	X	X		X			X			
SBU 3	X	X	X		X	X				
SBU 4					X		X	X	X	X
SBU 5		X		X						X

Figure 13 The restructuring

The production process also limited the actions of the business unit managers in DCPD. Although the business units had their own products and production facilities, the processes were long and crossed several other business units. This constrained the business unit managers' strategic and operative decision-making concerning for instance the quality of raw materials, product mix, investments and production control. The business units in Pori merely filled the criteria of a profit centre. One could even argue that some of them were investment centres or cost centres. Paradoxically in many aspects the decentralisation of routines did not mean the decentralisation of decision-making. The unbalance of responsibilities and authority increased. The DCPD manager later expressed the situation of 1995 in the following words:

> *"The systems did not support management, there was too much room for explanations… There was a total lack of process thinking…" (DCPD manager, interview 22 August 2001).*

> *"The decision-making was diluted to the mill area so that it was difficult to know who the real decision-maker was." (DCPD manager, interview 17 December 2001).*

This comment does not mean that there was no decision-maker. It means that it was not possible to find one just by looking at the formal organisation charts.

Figure 14 illustrates the construction of DCPD business portfolio as an innovative process of knowledge creation. The process externalised the tacit knowledge of key actors, SET members, SBU experts, controllers etc. with the explicit methodological knowledge of the researcher and the consultants about strategic and ABC definitions and concepts into explicit descriptions of 12 businesses. Partly the process involved combination of external and internal explicit knowledge, i.e. reconfiguration of existing data.

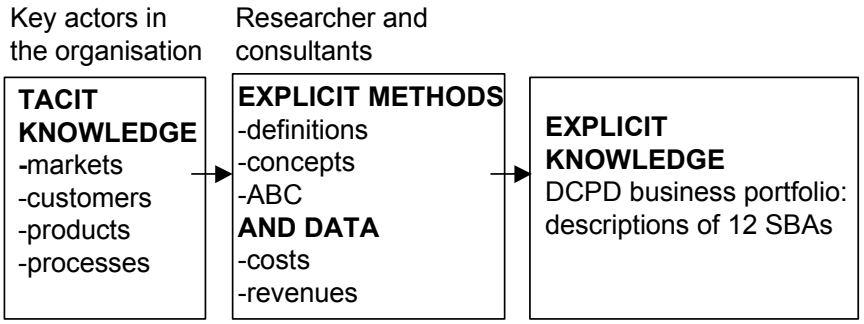


Figure 14 The construction of DCPD business portfolio

The managerial problem in this initial phase of the strategy process could be reduced into a single question: How to change the functional technology-oriented organisation into a portfolio of customer-driven business processes.

On paper the establishment of SBAs seemed easy but the implementation of the concept was a challenge. The production lines were literally laid in concrete several years ago, practically impossible to relocate for streamlining. The organisation, as business units in a specific geographic location, using a specific technology, was deeply internalised in the company. The formal accounting and reporting served and constituted the functional organisation by producing meaning to the organisation chart. Finally, the SBA structure itself

seemed to lag behind its theoretical ideal. Also the organisational starting point, SBU, seemed to have several variations in respect of its central criteria of independence.

The restructuring would mean fundamental changes in physical production, organisation, and control systems. The biggest challenge, though, was the changing of the prevailing mindset into customer-oriented thinking to plan the future investments in terms of the new structure and to focus the growth on carefully evaluated businesses.

3.2.4.3 The role of ABC framework

The division controller, i.e. the researcher, was thrilled by activity-based costing which would make the complex production processes transparent and show the profitability of the different SBAs. The business unit in the USA maintained a product costing system which was based on full costing. Their product profitability accounting served the strategic purposes. At that time product profitability accounting in Pori was made on an ad hoc basis. The system was a modification of job costing and it covered only few sample products. Overheads were classified into four classes, depending both on the degree of difficulty and on price level, in other words the ability to absorb costs. The principle of the product costing system is shown in appendix 4.

The new DCPD manager was familiar with ABC[9] and immediately started actions to launch a profitability accounting project. Simultaneously with the ABC project, the R&D manager was gathering information about the market shares of the different SBAs, and strategy consultants were also interviewing the key persons of the division. The schedule was tight. There had to be something tangible to present in the first strategy meeting. To speed up the project, consultants were hired. The ABC project was managed by the division controller and in each unit controllers gathered the data (actuals July-December 1995) and produced a profitability analysis using electronic worksheets. The two junior consultants were assisting and did some analysis work. The calculations took 1 month to do. Only three drivers were used: machine hours, number of order items and number of transport lots. An example of the calculus is shown in appendix 4. During the project, 83 different production processes were identified. The final target was to implement activity-based-management in the near future.

Although the calculations were crude the results proved to be drastically different from the previous ones, but the differences could be explained by

[9] The case is documented in Malmi (1994 and 1997a).

common sense. Long processes and short batches became more costly and simple processes and long batches became cheaper. The project revealed inefficiencies in the processes and some inconsistencies in pricing. This information was utilised immediately and actions to correct the situation were taken. The project also showed the different nature of the drawn products' business. Because of the special products and small lots the number of tasks to be done in production and administration was far bigger than in the neighbouring business units of Tube and Rolled Europe business sectors.

The development of cost structure in DCPD business units had been in line with the general development in the industry. The relative share of direct costs was decreasing, especially, after the implementation of new technology, but at the same time the indirect costs were growing. Marketing, production control, administration and product development all needed additional resources. The complexity and ongoing change in cost structure made a perfect case for activity-based costing. After the ABC project each unit was able to profile the profitability of their product groups with the help of whale curves (see e.g. Cooper and Kaplan 1999, 284). Figure 15 illustrates the examples of the profiles. Later, when a production control system SHIVA would be implemented, a costing module would be planned after the principles of activity-based costing[10].

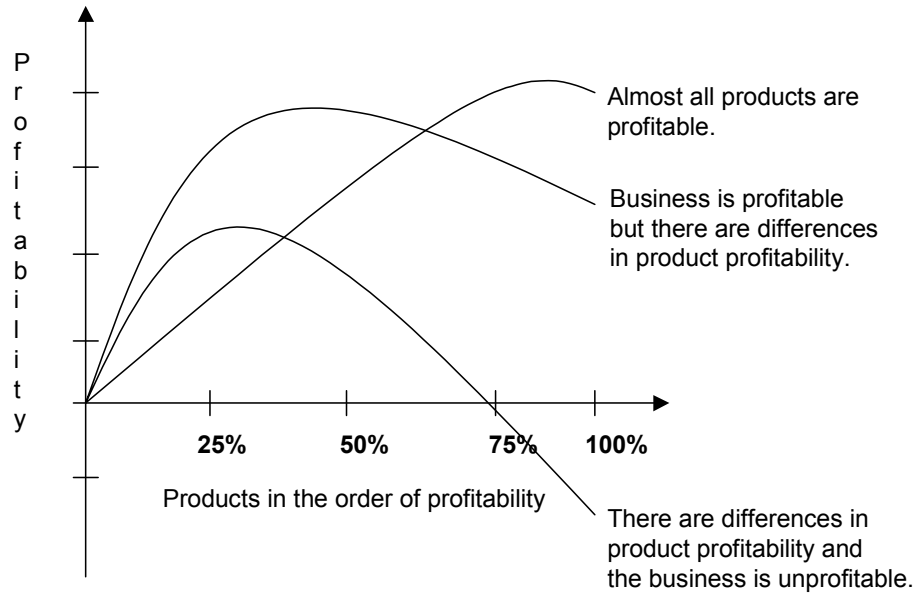


Figure 15 Examples of the profitability profiles in the business units

[10] Paananen (1998) documented the ideas behind the integration of activity-based costing system and production control system.

The ABC framework was pivotal in the construction of the DCPD portfolio because it gave substance to the SBA structure. The restructuring clarified the complexities and mediated the new customer-oriented thinking but ABC signified the portfolio by serving the financial evaluation of individual SBAs which was the major legitimate criterion for decision-making concerning the future of the businesses.

3.2.4.4 Defining the relative position

The first strategy seminar in Paris, March 1996 began with the new manager's presentation. The director of the business sector continued and presented "the owner's" expectations for the division. The R&D manager told about the history of the division and the consultants presented the work plan for the strategy seminar. The purpose of the strategy process was to define the strategic challenges and competitive position of DCPD, to focus efforts and resources on the best opportunities in the global market place, and to communicate the strategic goals and ambitions to the whole organisation. The purpose of the first seminar was to gain insight into two questions. Which are the division level issues and why is the division level strategy important?

The consultants gave an analysis of the planning situation in the division, and they also gave a lesson on the characteristics of a good strategy. The seminar continued with the SBA reports presented mainly by SBU managers and sales managers. The division controller presented the results of the ABC-analysis. The SBA reports were generally assessed insufficient. According to the strategy consultants they did not even answer properly the question "where are we?". The question "where to go?" remained unanswered. In spite of the serious work, the process required more information about business environment, competition and operations.

The second day consisted of group work, which concentrated on environment, competition and operations. Each group also defined the industry key success factors. A SWOT analysis was prepared after the identification of the major trends in the business environment. The final task was to identify the main strategic challenges of DCPD. The challenges of managing DCPD were globalisation, customer focus, the implementation of new technology and the identification of divisional synergies. The general complexity of the business added to divisions challenges and insufficient profitability of some units increased the pressure from OCP headquarter. The historical reason for the complexity was deemed to be clear. "When the matrix organisation was created, the big and clear product groups formed business

sectors of their own and what was left was called Drawn Products Sector." This opinion was shared widely in the organisation. Some of the identified challenges were operative. The reduction of overheads, enhancing process efficiency, involvement and empowerment were also listed.

Towards the end of the seminar a strategy evaluation team (SET) was founded. The task of the team was to evaluate SBA strategies and to develop a divisional strategy. The sector controller chaired the team. Other members were division manager, controller of DCPD (the researcher), R&D manager and the manager of Special Products business unit. Later on the new marketing manager and the personnel manager joined the team. After the initial phase, the business sector controller left the chairmanship and the division manager overtook the post.

Most of the business units applied a more or less successful defender strategy, but there were also noticeable features of reactor strategy (see also Puolamäki 1998, 94-97; Kasurinen 1999, 57-59, 2002a). Enhancing efficiency and especially cost-efficiency achieved by technological advancement was dominating competitive strategy, but obviously some of the product lines were "stuck in the middle" (see also Puolamäki 1998, 91). The parallelism between the defender and cost-efficiency strategies is obvious (see Langfield-Smith 1997). Not surprisingly, this case seems to confirm also the parallelism between defender strategy and tight financial controls. Like in Simons's study the interest in the development of cost control was marginal (Simons 1987, 369) but this case suggests partly different reasons. The emphasis was firstly on internal stability and buffering the environmental turbulence. Also the great significance of production volume to the contribution margin may explain the missing interest of the business area headquarter in the development of product costing. Volume was more easily controllable than product profitability.

Plans to implement the new production technology were still under consideration. OCP management had set a target to replace the old press with new extrusion technology, as well as to introduce the new rod extrusion machines to the business units in the USA and Asia. However, already during the preliminary phase of the strategy process it became evident that the for long neglected old press was a profitable cash cow, and that the new extrusion technology had not yet shown its economic viability. A special team of young enthusiastic and ambitious engineers started to plan and execute the development of the new technology. This PROPPU -team[11] had free hands to comment and propose new ways to do business technically, commercially and organisationally. During the following months PROPPU–team produced

[11] PROfitability, Productivity, PUnctuality

unconstrained ideas which in many ways broke the conventional ways of thinking in the company. All the members of the team were engineers, but their scope in the investment project was wide and also included an ABC project in the sales offices, a TC-type of tool for profitability calculations in the design phase and BSC business model.

The business area management's expectations concentrated on remarkable growth in those areas where the new technology could be utilised. The Nippert Company had a brand new rod extrusion machine already running, and the plans of a new mill in Malaysia were almost finalised. The second production line in Pori was under planning. The competitive strength of the new extrusion machine was its mini-mill concept. The rod extrusion machine could be combined with continuous casting to form a cost effective, flexible production unit. Investments in this type of production line are much lighter than in the conventional technology with a foundry, extrusion press, multiple drawing machines, heating systems and baths. The division manager saw the potential of these mini-mills in serving customer needs. These mills could locate globally near customers and they could provide their customers with application specific copper profiles. The mini-mill concept in Malaysia was practically turned down by the business area headquarters which made a decision to combine an ACR tube plant from the Tube Business Sector and a drawn products plant. The possibly lower production costs did not comfort much when the complexity of the project increased and construction and start-up were delayed. The decision process was from this moment practically away from the hands of the division and sector management.

The performance reporting of the rod extrusion machine was, anyhow, standardised at the divisional level by developing the early reports used in Rods and Profiles business unit. The reporting enabled strategic learning to some extent. The second implementation process of the technology in the USA was faster. The new capacity in Pori was partly filled with the production of the low value added bus-bars. This idea did not fit the general strategic principles of the business sector, but the planning to penetrate this huge global market continued. Because the market of these products was highly competitive, the production planning started from the market price and the process costs were analysed against the target cost.

The main future question was the rate of independence in the business units. Should these units serve the common strategy efficiently or should they be independent local units. The SBAs had clearly different needs of global integration and of local response, which are depicted in Figure 5. Pressure for global strategic co-ordination can be divided into subfactors such as importance of multinational customers, importance of multinational competitors and investment intensity. Pressures for global operational

integration consists of technology intensity, pressures for cost reduction, universal needs and access to raw materials and energy. Weighing all these factors shows the need for global integration. Pressures for local responsiveness comes from differences in customer needs, differences in distribution, need for substitutes and product adaptation, market structure and host government demands. (see Prahalad & Doz 1987, 23 and Puolamäki 1998, 107.) The understanding of the need of global co-ordination and control has a pivotal role in the development of the control system (Dent 1996; Mouritsen 1995, 304).

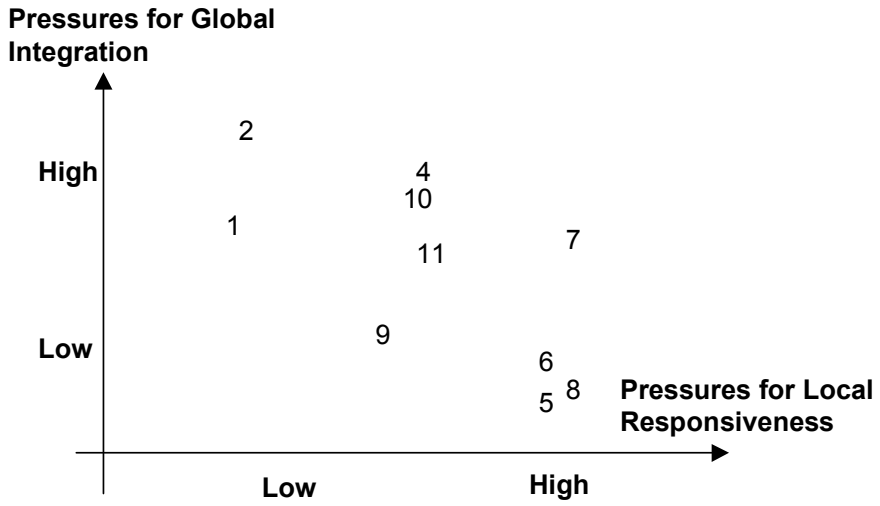


Figure 16 Global integration and local responsiveness

Figure 16 shows the different SBAs in relation to global integration and local sesponsiveness. An obvious conclusion is that the division did not operate in a global mode. In many businesses the local response was more important than global integration. There was even a group of businesses which were glocal, i.e. businesses with pressures for both global integration and local responsiveness. From a strategic perspective the fundamental question was: Does the world-wide implementation of the new technology and the focus on multinational key customers lead to increased pressures for global co-ordination and integration? If this is the case the control systems of a typical multidomestic company were not sufficient for global control and for the challenges of globalisation.

The ideas of global approach (see Prahalad and Doz 1987, 23 and Puolamäki 1998, 107) in control did not seem to fit the obvious multidomestic approach of the business area management (see Mouritsen 1995). The

anticipated strong co-ordination from the division was a threat both to the business area management's authority and business units' independence.

3.2.4.5 Construction of the DCPD business intelligence system

Throughout the year 1997 the R&D manager was preparing the competitor database. The controller was participating in the analysis and gathering of financial and strategic information. OCP management initiated the development of a business intelligence system. The system was called STRIDE and it was operating on an application of Lotus Notes. The first priority in the business area level project was to gather information about specific business area level competitors continuously. DCPD staff used this system actively. Seven global competitors were identified during the strategy process. The foremost information source was OCP's own organisation, mainly marketing people. The information was completed with data from Non-Ferrous Metal Works of the World. Other sources were Dun&Bradstreet, Mc Carthy (Financial Times), Datastream, Disclosure Worldscope Global, ABI/Inform and Reuters News Service. The reference lists of technology suppliers were also valuable sources of information. The basic information was partly collected by a group of students which reported to SET (see Jones et al. 1997). The main information was the markets, market shares and profitability of the main competitors. The analysis of the ownership structures also disclosed interesting issues about the links between customers and competitors.

The usage of the database was limited in relation to price and cost information which is regulated by EU directives. The financial information was comparable to only some extent, and some of the competitors disclosed only corporate level figures. The huge differences in the size of the competitors was also a problem. A more serious problem was the motivation of the business units to use the database. The reporting to the database was instructed mainly by the OCP headquarters. The reporting was one way information flow and most of the business unit managers felt that they did not get enough in exchange. Despite the problems, the R&D manager had established a competitor information system and it was running to the full early in the autumn of 1997. Figure 17 illustrates the planned rationale of competitor intelligence.

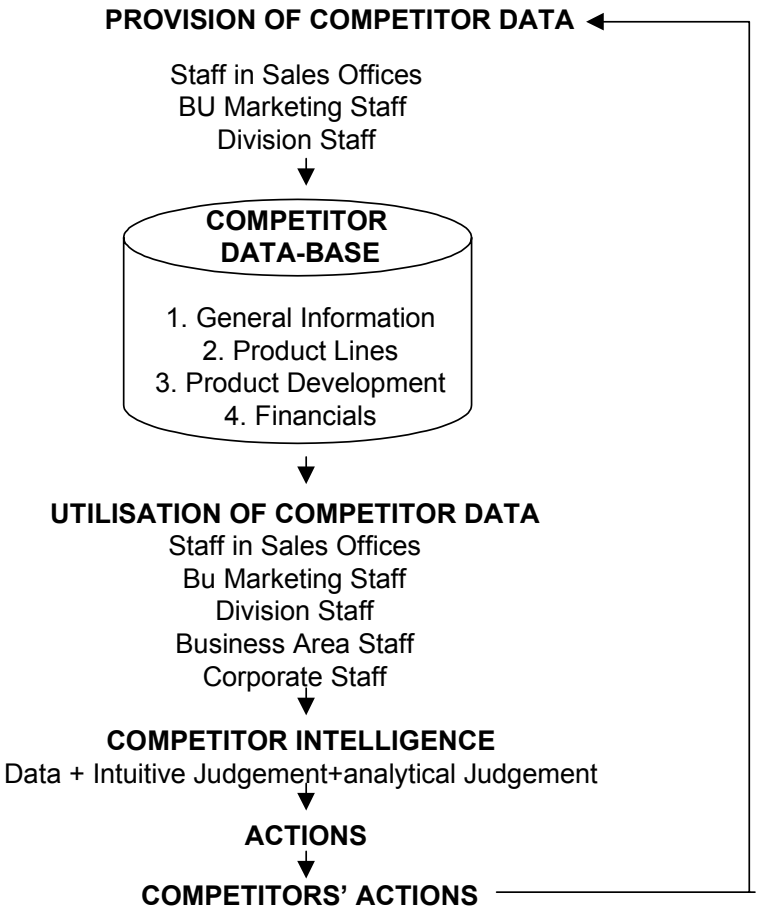


Figure 17 Competitor intelligence system

Figure 18 illustrates the competitor knowledge creation process and the construction of DCPD business intelligence system. The construction process externalised the tacit knowledge in the organisation. An important input in the process was also the SBA strategy descriptions which were elaborated in interaction with SET. OCP provided the information system and the researcher the CFA concepts. The R&D manager and student groups acquired the substance to the system. The combination of all this knowledge formed the DCPD business intelligence system

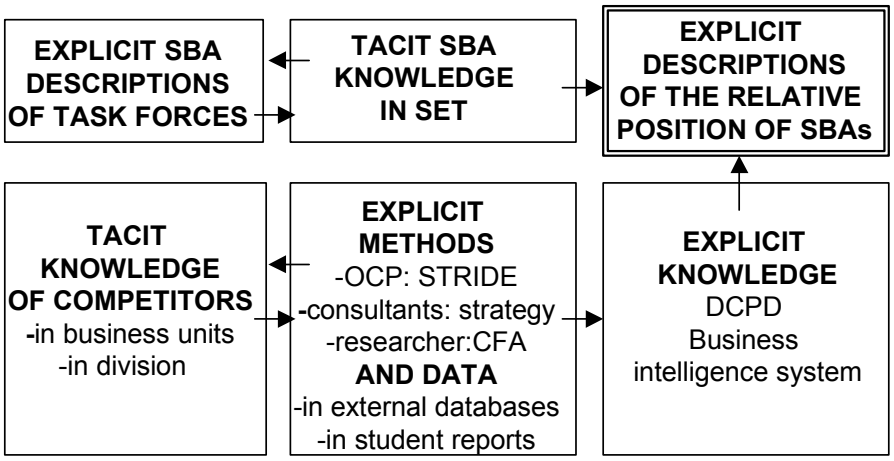


Figure 18 The construction of the business intelligence system

The next step after the first seminar in March 1996 was to analyse the material gathered during the first phase, supplement it and position the different businesses in the DCPD portfolio. During the following months SET concentrated on gathering information and evaluating the refined SBA plans. The progress was checked every month. The strategy consultants were replaced, because the focus was perceived to move to the control issues, and co-operation started with a new consultant who introduced balanced scorecard to the organisation in a workshop. During September 1996 also the planning of strategy communication to the personnel started. The members of SET got together in October 1996 to consider the results from the analysis of the business portfolio. The information consisted of written tables. The accounting information was visualised with the help of BCG-, GE- and Porter-matrices. Appendix 3 illustrates these matrices. BCG -matrix is usually depicted in two dimensions but in this analysis the third dimension, operating profit, was added to validate the information and to question the status of the business operations against the theory. The theory predicts the cash flows. As a whole the whole business is stable and the market growth rates are very moderate. The information in these matrices is not original for confidentiality reasons but fully comparable to the situation in the division. A consultant hit the nail on the head by saying: *"This portfolio is like a startled flock of sparrows. Everyone is flying its own direction."* The matrices showed some inconsistencies when they were compared to the theoretical frameworks behind these matrices. They also provoked good questions about the position of some of the SBAs.

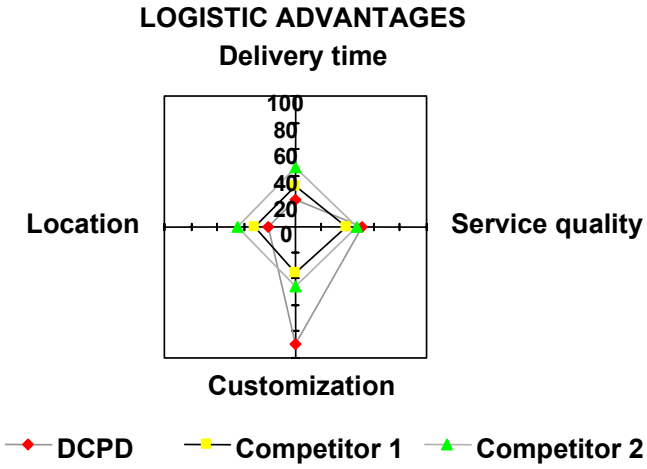


Figure 19 The relative strategic position

The controller visualised the relative position of some of the businesses with the help of graphs like in Figure 19. This figure is an example and the values are not original. Other items under examination were price, market share, growth, capacity, capacity utilisation and costs such as energy, labour, raw material. The assumption in the beginning was that some of the SBAs were mature or even in recession. The information revealed that the capacities and sales volumes were underestimated. Some of the competitors had invested in new capacity or they were planning to do so, thus the relative market share was to be unchanged even after planned investments. Some of the competitors were also milking these cash cows.

3.2.4.6 The role of CFA framework

This case is an evidence of the usage of competitor-focused accounting. Guilding (1999) identifies the following five practices in this group of strategic management accounting: 1) competitor cost assessment, 2) competitive position monitoring, 3) competitor appraisal based on published financial statements, 4) strategic costing, and 5) strategic pricing. The implementation of CFA in DCPD was linked to the HQ driven business intelligence project STRIDE which in its initial phase was met with indifference in the SBUs. Originally the business area management's interest was in gathering information from all parts of the organisation concerning few business area and corporate level competitors. The global system was available for the business units and gradually all the business sectors implemented the system. Some of the business unit managers were at first

reluctant to use the information system which they saw as just another form of unidirectional reporting. Strategic costing and strategic pricing were prohibited issues in the database by EU directives. The database supported other three apparent CFA practices. One important part of the information substance was competitor appraisal based on published financial statements. Competitive position monitoring was piloted with both financial and non-financial measures. Competitor cost assessment existed but was not formalised. The observable result of CFA implementation was an information package of the key financial indicators of the main competitors. Compared with the global information base in the own organisation, active use of public and private databases and effective but ethical data collection of task forces the data needed substantial intrepretation of informed managers.

None of the SBUs had systemised the gathering of competitor information. There was no need to share the information because many of the most dangerous competitors on the SBU level did not compete with many DCPD's business units. On the other hand the competitors in the business area did not threat DCPD's business units. Business unit staffs had vast amounts of information and they seemed quite happy with their folder archives. For the most part this is explained by the close contacts with markets and the stable nature of the business. Information about any bigger move of competitors was diffused effectively.

3.2.4.7 Towards DCPD strategy and the end of the strategy process

After a SET-meeting in October 1996 the results and conclusions were communicated to the key persons in the business units. The meetings were interactive and provided an opportunity for discussions. Almost total consensus on SBA strategies was reached during this period. The main strategic principles were first, to be a manufacturer and marketer of manufactured parts and assemblies rather than a supplier of materials and second, to build a growing portfolio of loyal customers and meet the needs of these selected customers. Each of the SBUs had their own core competencies and special skills. These SBUs formed a network of centres of excellence.

At the beginning of 1997 the main target of the strategy process was to create a global division strategy and a control system fit for this strategy. The core of the control system was planned to be balanced scorecard type of performance measurement system. The division manager and controller were anxious to start the performance measurement development project but the divisional strategy process was not finished. The future structure of the division was still open. Anyway the performance measurement project started.

Special Products business unit became a pilot due to its focused strategy and the best chances to get the best out of the process[12]. Now three groups in DCPD were pondering the BSC framework: division staff, PROPPU team and Special Products business unit management.

The business sector management had set its requirements for the corporate strategy planning year 1997. The business sector required profitability. The profitability was not a mission, objective or goal – it was a requirement to stay in business. Return on capital employed had to be over 20% to be considered as suitable business for continued investment. Businesses in a development phase or in a supportive role were the few exceptions. The business sector also required growth. Those businesses which had achieved the profitability requirement were expected to show consistent growth. For those units not meeting the profitability requirement the sector management expected credible plans detailing how this would be achieved.

The planning was divided into three steps. The first step was to draft a sales plan for the next five years. In the first place the customers were analysed. The analysis was by customer covering up to 80 % of the total conversion value of the business unit. The issues analysed were conversion by product unit, and planned and total conversion for the next three years. The business units had to list their actions to accomplish the plans and define those customers targeted for penetration under the planning period. Business unit managers had a meeting in Chicago in April where they presented their sales plans and discussed possible conflicts. The second step was to set goals for the service functions, with the instruction that the plans were to be used for any budgeting or planning services to Drawn Products. The business sector asked for feedback on any conflicts, and any additional resources. The final step was the preparation of financial projections. These projections were driven by the sales plan of each unit and the budget projections of the service functions. During the process there were severe difficulties to identify the key customers in non-focused business units[13].

The sector planning process anticipated the needs of the formal business area strategic planning. It was done by SBU and the main message was to identify the possible conflicts between the different SBUs and between SBUs and common service functions and to resolve these conflicts before the formal planning. The SBA level planning was acknowledged but the role of these plans was vague. The planning instructions were addressed to business unit

[12] This pilot process is documented in Kasurinen (1999, 2002a). Balanced scorecard was not implemented comprehensively and the project was successively laid down after the resignation of the division manager.

[13] During the strategy process the concept of key customer was exhaustively discussed, especially when the improvement of service process was planned (Väänänen & Parviainen 1998).

managers but were sent to the DPCD manager for comments before their mailing. There was no conflict between the business sector level instructions and divisional actions, but the instructions clearly emphasised the role of the SBUs in the process.

DCPD management drafted the mission statement and the future vision for the organisation. The next step was to set concrete growth and profitability goals for the division and analyse the competition in the markets. The responsibility areas of the SBUs, SBAs and DCPD staff were still open. The divisional responsibility area was problematic. The formal reporting system did not consolidate the financial reports of DCPD's business units with the staff organisation. Various reasons were given to this state of affairs, but the situation was difficult to comprehend. In spite of the organisation charts defining DCPD, it was missing from the financial scheme of the business area, which in an administrative sense signified the existence of an organisation. All DCPD staff were located in the same premises, but they all were dispersed administratively to different cost centres in the business units and a large part of the costs were recorded in the OCP headquarter to their cost accounts from where they were allocated among other allocations to the business units. In a sense this was convenient but the division staff had no track of its costs and the situation caused constant tensions between the business units and division management.

A workshop in late June 1997 sought consensus on the divisional strategy. The participants were members of SET, Rods and Profiles business unit manager, Machined Copper Products business manager, Asian investment project manager and the manager of the rod extrusion development team and naturally the consultant who was organising the strategy process and this particular workshop. The basic strategy of DCPD was developed by a separate work group.

The strategic objectives meant considerable growth both in value and tons. The ROCE objectives for niche products (40%) and volume products (10%) were separate. Respective relative market shares, i.e. the relation of the own market share to the market share of the biggest competitor, were 1.1 and 0.9, i.e. DCPD was to be the market leader in niche and among three major actors in volume in both cases in the global market. The basic elements in the divisional strategy were:

- To know the value chain.
- To act globally.
- Customer focus and value adding services.
- World class efficiency.
- World class business intelligence combined with efficient communication.

The division manager listed the central strategic themes: *"The future success of DCPD requires a process-oriented organisation with accounting and reporting utilising most efficient tools and methods such as ABC, ABM, TBM etc. The organisation must be lean, efficient and fast in all activities. Utilising balanced scorecard will secure efficient management processes and best possible strategic and operative fit. The cornerstones of the strategy are the identification of core competencies and efficient technology management by using centres of excellence and efficient information systems. Close relations and partnership with key customers will secure customer-driven and customer-driving R&D. The development of management skills to lead a cross-functional, learning team organisation is one of the major challenges for DCPD organisational development work."*

The emphasis was on creating a prospector strategy and raising the management accounting systems and control systems on to the corresponding level. In this case the claim of Miles and Snow (1978) that prospector firms scan their environment is beyond no doubts. Bearing also in mind the interests of OCP, the importance of forecasted financial data, achieving budgeted targets and output, monitoring grew significantly (see Simons 1987, 370). The importance and actual usage of interactive and beliefs systems increased drastically. Teams and groups were established and difficult strategic issues were discussed. Mission and vision were results of teamwork and they were communicated to the whole personnel for comments. These pursuits are identical to Simons's findings, as well as the reasons for these pursuits: overcoming organisational inertia, structuring and communicating performance expectations, and gaining organisational allegiance to the new agenda (Simons 1995, 133).

The meeting discussed mission, core values and vision as well as the SWOT and strategic actions and targets. The mission of DCPD was:

> *We add value to our customers' business processes by developing and forming copper products and services.*

The next two-day strategy meeting was in Finland in August 1997. The basic strategy of DCPD was translated into OCP, DCPD, SBU and SBA roles and responsibilities. A presentation on marketing intelligence finalised the first day. The next day was dedicated to functional strategies. Marketing, R&D, Technology, Technical service, Foundries, Information Technology and Personnel Development gave all their own presentations. The development plan of management control systems was presented by the division manager. He listed[14] the most important issues of the development of the management

[14] This list of issues is a copy of the original hand-written transparencies presented in the strategy seminar 19 August1997 in Nauvo.

control systems in DCPD (see appendix 5). The implementation of the strategy required a quantum leap in the level of the control systems. The executive assistant of the division presented the plans to communicate the strategy to the personnel.

The role of the new data processing systems was critical in the development of the business operations. The complexity was managed by combining ingeniously the new sales system NSM, production control system SHIVA and financial control BPCS. The new sales system was developed on top of Lotus Notes email system. This was a predecessor of internet-based intranet solutions and its architecture proved to be far ahead its time in the company[15].

The new ideas were contradicting many traditional ways of thought in the organisation. The OCP management prioritised centrally developed IT-systems and did not meet the development plans of the divisional systems with sympathy. The ideas to develop full costing systems were met with counter projects developing standard concepts of variable costing and profit and loss reporting. Independently of their source, all these projects were met with suspicion in the business units. The customer orientation had been on the agenda already before the DCPD strategy process but it seemed that the words lacked substance. However, the division controller started to draft a tentative set of performance measures, which was based on the information compiled in the strategy workshops.

The strategy process came to a dramatic end in October 1997, when the division manager announced that he was leaving the company in November and the sector controller would take his post. The process changed its nature. The remaining time was used to the communication of the strategy. The process was documented and the remaining projects surveyed. The last strategy meeting was held 3 November 1997. After the manager had left the company the projects were finalised or laid down. The initiative in control systems development moved to the OCP level.

After two years in another company the manager came back, but to the Outokumpu Copper Products' headquarter. Later he could describe his feelings 1997 at the time when he left Drawn Copper Products Division:

> *"It was a treadmill. Nothing was enough and the demands increased. The skills were used in excess. The physical distress caused by over 200 travel days a year was hard… There was a feeling of missing influence. The systems did not help and the decisions were made somewhere else… The trust in executive management was failing. There were political games in the business area management. Talks and deeds were contradicting." (DCPD manager, interview 22 August 2001).*

[15] The development process of New Sales Mode is documented by Rita Valve (1998).

The permanent legacy of the manager was the architecture of the information technology. The financial reporting and control systems were not influenced at all. During 1995-1997 the basic structure of incentive systems was unchanged, except a minor increase in the relative share of qualitative metrics (Puolamäki 1998, 149). Under the same period management team meetings focused mainly on operative reporting, but strategic development was constantly on the agenda. No significant changes in themes emerged. (Puolamäki 1998, 154.)

3.2.4.8 Construction of DCPD performance measurement system

BSC did not proceed even to an adoption phase even though it was seen as the main diagnostic control mechanism for the division and it was promoted by several consultants, but the operative non-financial performance measures of the new production technology were implemented successfully. The approach to implementation of the BSC system was two-fold pilot projects. The first was a pilot in one of the business units and the second was a tentative divisional balanced scorecard in Figure 20 for global SBAs proposed by the division controller/researcher (see Puolamäki 1998, 173-187). In addition to these projects the PROPPU team developed a BSC of its own for controlling the business which utilised the new technology.

The pilot project in Special Products led to incomplete implementation. In this sense this pilot project was a failure. Already during the early phases of the project, a gap between division management expectations and business unit management's goals was developed. The division management emphasised organisational learning and business strategies, whereas the business unit management focused on operative monitoring of the business environment. This led to uncertainty related to the project. The strategies were also unstructured. The project also met practical problems in data gathering and in overall commitment to system implementation. The final stroke to the project was the resignation of the division manager. After the resignation the project ran idle for months. (see Kasurinen 1999, 114, 2002a.) The divisional BSC project was not by any means more successful. The influence of the controller/researcher was limited and the advancing force was missing (see Puolamäki 1998). Also the BSC of PROPPU team was a paper exercise among others.

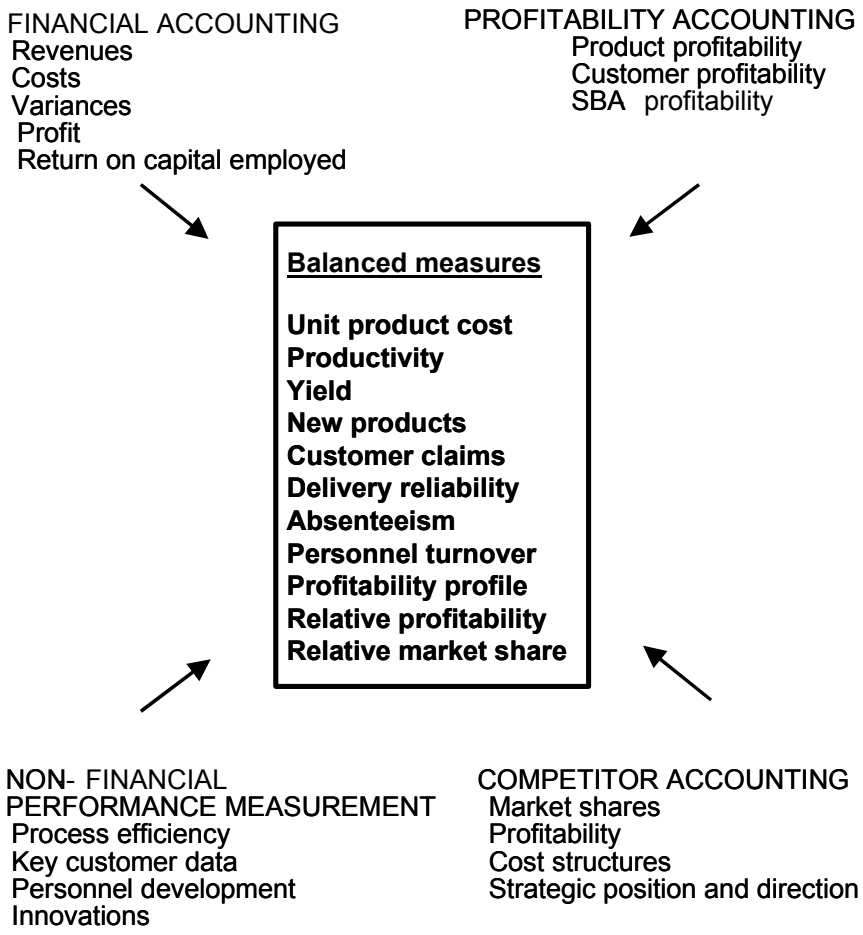


Figure 20 The tentative set of performance measures

The reluctance to develop a strategic performance system and the efficiency of the resistance amazed the researcher. The major carrying idea of the divisional performance measurement system was the possibility to control SBAs in a similar vein and facilitate mutual learning. Inevitably the situation reminds of, not so isolated, an experience that *"the regional managers would rather die than learn from each other"* (Gupta & Govindarajan 2000). Generally, the expectations in parent companies exceed the reality in subsidiaries concerning the knowledge sharing (Gupta & Govindarajan 2000). It was a feature of the culture, not to disclose anything without direct orders from the OCP management, because the disclosure might mean troubles. However, the performance measures of the rod extrusion machines were rather easily standardised and implemented in Finland and in the USA. This was easy to understand, because the actors had nothing to lose but a lot to win and the organisation had slack resources for knowledge creation and sharing.

3.2.5 Post-process implementations, Outokumpu Copper Products 1998-2001

OCP management started a strategy process at the business area level at the beginning of 1998 by hiring COBA Renaissance as a strategy consultant. They prepared a basic strategic analysis and regrouped the business. DPI (Decision Processes International) was hired to instruct the next phase. The assignment was based on copper and its properties. The job was started by questionnaires and interviews. The business analyses were made in work groups. The process went along the lines already experienced in DCPD's units. The motivation was to add value through understanding the customer industry (Outokumpu annual report 1999, 16), but the most important driving force, identified in the process, was process technology. Other important issues were production capacity and production capability. The process did not question the technology and production orientation, but looked for focus in business. OCP vice president, the former financial director of OCP, managed the process. Important actors in the process were the Drawn Products Sector director and the controller. The latter was appointed as the manager of the DCPD. The new ideas were communicated to the business units during some short sessions. The original analysis material was not distributed.

> *"It was kind of predictable, that if you ask the most important driving forces in technology culture, the answer is production capacity and production capability... The analysis was hard work and in the end came exhaustion… The structure was not well-thought-out and the communication was insufficient. It is impossible to learn these things during a two-hour transparency show… It was not part of the culture to distribute the analysis material of the consultants and ask comments on them." (business intelligence manager, interview 4 October 2001).*

The process was laborious, but lacked commitment from the operative managers' side and the anticipated focus in the business was not achieved. The business area management rushed into changing the organisation. Figure 21 illustrates the new organisation which was based on client industries. It was divided into global and regional business lines. This restructuring also erased Drawn Copper Products Division and Drawn Products Sector from the organisation chart.

The outcome of the organisational change was drastic. The responsibilities were unclear, the control of sales offices did not work, ability to meet deliveries was decreased and the financial objectives were not met. In many cases the assumption of global customers was not valid. The competition was local, whenever there was local competitors (business intelligence manager, interview 8 November 2001).

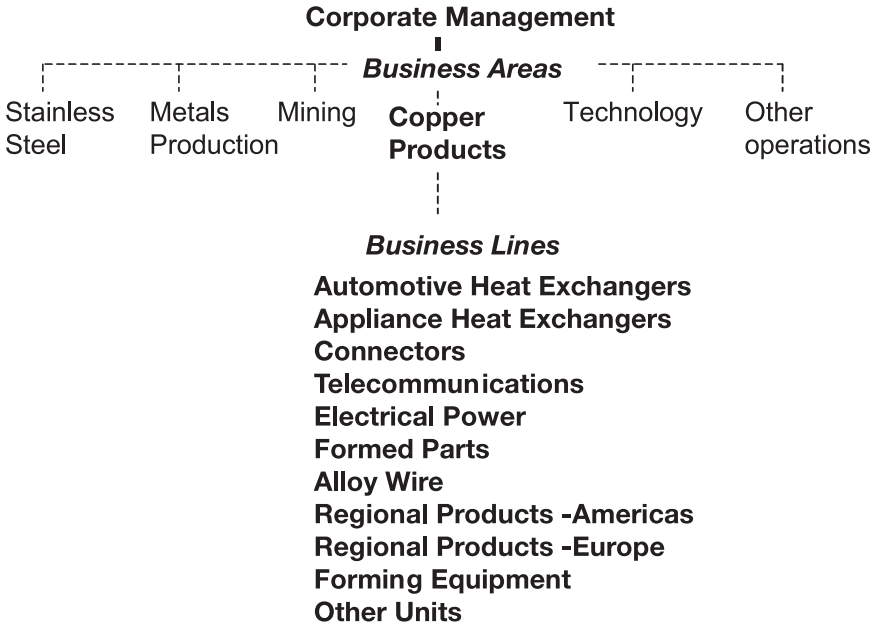


Figure 21 Outokumpu Copper Products in Outokumpu group in 1999

The personnel politics in Finland changed. The first mass lay-offs in the over 50-year history of Pori mills started at this time, yet they were followed by recruiting problems after some months. From press release May 27, 1999:

> ***Outokumpu Poricopper strengthens its operations and reduces work force***
>
> *To improve profitability further and to secure future competitiveness Outokumpu Poricopper Oy is undergoing an enhancement program which covers all of its operations. In addition to paying special attention to the cost structure of its operations Pori works will also reduce personnel with 128 persons by the end of the year from end of April situation.*

The president of OCP had to resign at the beginning of 2000. The new president of the business area set a single hard financial target for the year 2001. *"We will complete the comprehensive performance improvement program at Copper Products whose primary objective is to achieve operating* profit of EUR 100 million in 2001." (Outokumpu annual report 2000, 3). All the strategic actions had to contribute to achieving this target. The president of OCP took a view that if this target is achieved, it proves that the chosen strategy is right. The organisation was clarified and only automotive heat exchangers and appliance heat exchangers were global businesses. All other

businesses were regional. Figure 22 illustrates the organisation. The business intelligence manager described the strategic challenges:

> *"Change is a path or a chain of separable phases and adoption periods. The danger is that the boxes in the organisation chart change but not the patterns of action… To find and define the business focus is the most difficult point. The management has to commit to these decisions. The problem was investments in even those products which were labelled as "less emphasis" in the strategy." (business intelligence manager, interview 4 October 2001.)*

The operative tensions around internal deliveries between divisions were solved by formal contracts. Management teams solved discrepancies between mills and business lines.

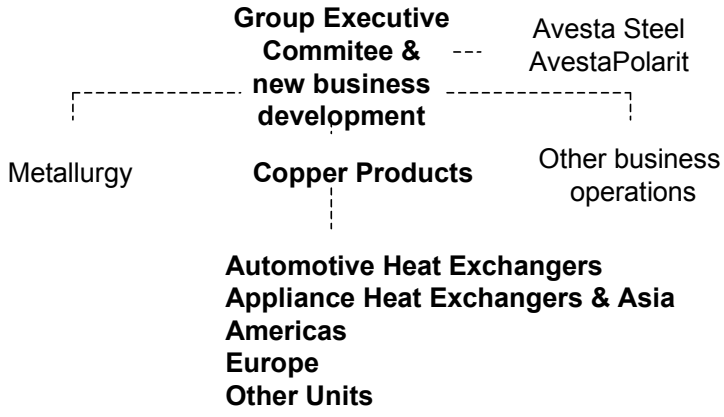


Figure 22 Copper Products in Outokumpu group in 2000

The former DCPD manager returned to Outokumpu Copper Products business area headquarter at the end of the year 1999. His new responsibility area was business development, including the architecture of the performance improvement program, the development of a new strategy, business intelligence, metal management and information technology. In the autumn of 2000 he was given the responsibility for a performance improvement project called SPEED.

The performance improvement program consisted of many action programs such as pricing, capacity management, production, sales and marketing, cross-operational and development programs. All these action programs were managed by the staff of OCP headquarters, but the individual business units managed the SPEED process itself as a continuous improvement process.

The SPEED model was created in a team of the mill managers and the new business development manager. It is a simple process model[16] which covers several phases. First the business unit defines its areas of excellence and selects several areas of focus. The next step is to identify the critical issues. The actual process starts with an analysis defining the status of critical issues. The second phase is target setting followed by action programs. The next two phases are making the actions visible and follow-up of the measures. The program aims at world class manufacturing by focusing on five areas: capacity, cost, customer, people and quality. The model also recommends a separate toolkit for manufacturing management. The recommended tools are: 1. performance metrics, 2. process reliability improvement, 3. process mapping, 4. speed management process, 5. scheduling systems and technology, 6. total productive maintenance. The optional tools are: 1. problem solving process, 2. formal hygiene and housekeeping systems, 3. employee involvement system, 4. supplier management system, 5. process re-engineering. (SPEED booklet.) Follow-up was based on monthly reporting. Each mill had a report of its own. The metrics were derived locally from the specific critical issues of the mill. The issues are typically production costs, capacity, quality etc. The emphasis has so far been on the production. The management program has developed into an internal SPEED brand with a logo of its own. The former DCPD manager, now the business development manager of the Business Area comments the SPEED program:

> *"The program was implemented by hard work in the mills and by being around locally. The initiative came from the Business Area management, but the program was fully implemented by the divisions and the mills. Those who were the actual doers also took the full credit for the achievements… This program was almost 100% operative but it had also strategic importance. The competencies achieved during this program are significant in times of strategic change. Readiness for strategic development is notably better than before. Now the internal learning is possible as well as external benchmarking… The logic in this program is basically the same as in balanced scorecard implementation, although the focus is on manufacturing. Now when the corporate management has decided that the balanced scorecard is to be implemented in every business unit, the implementation of balanced scorecard in Outokumpu Copper Products Business Area is a lot easier." (business development manager, interview 21 January 2002.)*

[16] This process model is almost identical with implementation of balanced scorecard management program (see Kaplan and Norton 1996b, 275).

The SPEED vision went through several modifications[17].

Original vision: *"We will have World Class Operationswhich support our Corporate goal of Profitability."*Modified Vision: *" We will have Culture of Continuous Improvement in Our Manufacturing Units Supporting Our Strategy and Profitability Goals."*New modified vision: *"We will have Culture of Continuous Improvement in Our Manufacturing Units aiming at World Class Operations to Support Our Strategy and Profitability Goals."*

It is noteworthy that even on the level of vision the emphasis is on the change of culture and creating an internal image of world class operations. These issues are also linked directly to the competitive advantages. Interesting is also the role of the controllers as bridge builders between functions and emphasis on the importance of including controllers in shop floor meetings about SPEED. During 1999-2001 SPEED achieved its financial targets.

In February 2000 Outokumpu Oyj's Board of Directors decided to restructure the group's top management and administration. The organisation was streamlined, and 10-15 main business units are reporting directly to corporate management. The Business Area term will remain in use within the Group to denote the strategic entities formed by the business units. Outokumpu group also adopted a shared-service policy, which meant centralisation of administrative functions. In Pori the decentralised accounting functions were united to a service centrewhich provides services to business units. The rolling financial planning and forecasting replaced the formal budget process. The corporate management urged business units to implement BSC. The first implementations in Outokumpu Copper Products' business units started in the year 2002.

The year 2001 was significant for the future of Outokumpu OYJ. Outokumpu Steel and Avesta Sheffield were combined into the independent stainless steel producer AvestaPolarit. Outokumpu owns 55% of AvestaPolarit. The shift in Outokumpu Oyj's business focus was clear:

> *The restructuring of stainless steel business provides Outokumpu with renewed strength for shifting its strategic focus to the development and expansion of its non-ferrous metals business. Our aim is to double these businesses and profits within 4-5 years and to actively exploit market opportunities. (Outokumpu annual report 2000, 2)*

The restructuring of Outokumpu group meant for Copper Products tightening of the financial targets, but strategically the new goals were only a

[17] The visions are picked from business development manager's presentation material 28.6.2001. The following comments are also based on the same material.

continuum of the existing strategy. Technology drive was redefined. It is a skill which produces value for the benefit of the customer. The urge is *from assets to knowledge*. Year 2002 Outokumpu Oyj acquired the remaining 45 % of AvestaPolarit.

In copper business the efforts were focused on internal efficiency by rearranging the administrative fuctions and reducing the workforce. In the Outokumpu annual report 2000 the global and regional businesses of Copper Products are linked directly to Group Executive Committee. In the year 2002 the headquarters of OCP was dissolved. The staff was moved into a service centre and business area management became a part of corporate staff. The former division manager of DCPD left the company again. Copper products Europe continued to improve profitability. From press release Mar 17, 2003:

> ***Regulatory employee/employer negotiations completed in Outokumpu Poricopper Oy***
>
> *According to the negotiations the reduction of workforce at Outokumpu Poricopper involves 184 persons of which 112 salaried and 72 office workers. Measures will be carried out during the current year mainly by pension arrangements and termination of temporary jobs. Amount of directly given notices is 31.*
>
> *The need to reduce workforce is part of the profitability improvement program of Outokumpu Copper Europe Division announced in January.*

3.2.6 Comments on the DCPD strategy process and SMA constructs

The division manager was engaged simultaneously in several types of strategic activities which employed strategic management accounting practices. The rate of adoption and actual implementation varied. The information systems used in the development process of strategy were for the most ad hoc – solutions, but the emphasis was to formalise them. Some of the information systems became eventually part of the institutionalised control systems. The next passage summarises the SMA practices employed and links the findings to the existing literature and research.

Activity-based costing

ABC was adopted but not implemented during the strategy process even though in the role of controller the researcher can argue that ABC projects in DCPD made a perfect case for normative ABC theories (Cooper 1988ab, 1989ab; Cooper and Kaplan 1988, 1999; Cooper and Slagmulder 1998ab). ABC provided full costing information with reasonable effort and corrected the severely biased product profitability information. Even with a limited

number of cost drivers, the differences between the resource consumption of different products became apparent.

The main deviation in calculation was the full cost emphasis and inclusion of unused capacity costs which can be explained by the bad experiences with the costing systems of the business units. The output from costing systems was not reconciled with the financial reportingwhich constantly biased the opinions about the product and total profitability. Typically, the total profitability was overestimated (see Cooper and Slagmulder 1998a).

The main emphasis in the adoption of ABC was clearly strategic, which actually served the ad hoc monitoring purpose. The project caused operative actions, new behaviour in order intake and pricing but the original motivation was strategic positioning (see Blocher and Berry 1995). ABC was not meant to be implemented during this project but was to be included in a production control system in future. This case does not conform to Gosselin's (1997) findings that more formal and centralised organisations are associated with the implementation of ABC. Actually, it is surprising why the centre did not notice the momentum and implement the perfect cost control system for their purposes (see also Malmi 1997a, 86).

The results led to several operative decisions in process improvement and pricing. The projects gave insights into the strategy process although the researcher did not witness any explicit exit decision or other long-term product or customer mix decisions. These decisions were made but there is no evidence that ABC projects initiated them. The construction of strategic activity-based costing system was to be a part of the new production control system SHIVA. The pilot project faced several threats such as lack of commitment and scarce resources (see Paananen 1998, 82).

The reluctance to implement ABC is understandable in the light of the conflicting strong corporate tradition of contribution approach. Heavy investments, long production batches and simple product mixes favour variable costing. The contribution margin was one of the main key figures of the business area. The production volumes and the utilisation of capacity were the main ways to affect profitability. The small batches and complex business environment in DCPD made a difference in the cost structure, but extended normal costing had no significance in corporate level accounting and reporting.

Balanced Scorecard

Already when the staff of DCPD was engaged in the development of BSC, the staff of Outokumpu Technology was planning to implement BSC. Engouraged by these examples the corporate management decided to implement balanced scorecard and imposed the systems on the different business areas of the Outokumpu group. Meantime the SPEED model

introduced a totally operative and SBU specific performance measurement system in the Copper Business Area. This measurement system was implemented and perceived as "our balanced scorecard". The key person was the same during both projects and the organisation is partly the same. What was different? Why was this second project an apparent success?

At DCPD the BSC approach was in conflict with the existing corporate systems of accountability. The accountability was based on contribution margin and ROCE. The business units met the broadening of accountability with suspicion and they saw the project as a threat to their independence. The business area management had no knowledge of BSC, and the controller function of the business area launched a competing project to strengthen the financial accountability and to standardise the formal rules of accounting.

Competitor-focused Accounting

The strategy process of the division initialised the usage of STRIDE system and it served mostly this purpose from the division's point of view. Naturally, the business area staff tended to regard the system as one form of tightly instructed reporting and any other usage was trivial. This case supports the results of Guilding's (1999) research in the sense that the prospector type of emphasis boosted the business intelligence activities and competitor-focused accounting in DCPD. The STRIDE system was not merely a reporting system but it was actively used in the monitoring of the competitors. The database was developed in accordance with the strategy process, and the information was used in the strategic positioning of the SBUs and SBAs. There were even too high expectations concerning competitor cost assessment. There were requirements of competitor information which was unattainable even in the own organisation.

Organisational, technological and market information dominated the substance of the database. Financial information was a minor part of the total data and relative information was almost non-existent. On every level of the company the controllers' function had an assisting role in the data gathering and analysis.

3.3 KCI Konecranes Plant Services Division 1999-2002

> Somewhere in Western Finland, May 2000
> The bus ran through miles of forest country. Occasionally the scenery in the bus windows changed into green fields of early summer. The bus was crowded with people from a KCI Plant Services' business unit returning from a retirement celebration of their former boss who had started the plant services in Crane

Maintenance Business Area. Many in the group had experienced the incorporation and outsourcing of their maintenance department some years ago, felt the insecurity and anxiety in front of the new situation. Their first contact with the new company had been this man whose festivities they had attended today.

The team on the bus was loud. The joyful tunes of accordion accompanied singing, back bench group had a friendly but noisy argument and somebody was persistently insisting a break. Finally the bus stopped by the wayside. After a moment small groups gathered beside the bus to smoke and chat idly about the day's events.

"Nice party, eh. I am sure we will miss him. He was like a father to us, always sparing time to us folks on the shopfloor." The fellow beside was certainly wondering this unconventional and emotional burst, but uttered an agreeing sound and waited curiously for next words. "I wonder what happens now. These last years have been so good after the miserable period when nobody knew what would happen to the maintenance people. Wonder what the new boss of the Plant Services will do. He sure has a challenge…"

The people started to climb back on the bus. It was still a long way back home.

3.3.1 The corporate context 1999-2002

KCI Konecranes is a provider of maintenance services for electric overhead travelling (EOT) cranes in the industrialised world. Maintenance services cover the full range of crane maintenance from repair and spare part services to preventive maintenance, inspections and modernisations. Service is provided for all crane makes. KCI Konecranes is the leading manufacturer of engineered and heavy-duty cranes for process industries. In standard EOT crane and component building KCI Konecranes is currently one of the largest companies in the industrialised world. KCI Konecranes is the world's leading supplier of shipyard cranes and has a strong global presence in harbour cranes for bulk materials and containers.

The crane business was originally a part of KONE OY, a privately owned Finnish company. KONE Cranes division was founded in the year 1988. The

crane division was incorporated in the year 1994 as KCI Konecranes International Oy. The company was listed in 1996.

The group was organised along with its business areas: Maintenance Services, Standard Lifting Equipment and Special Cranes. Maintenance Services was organised in four regions for local presence: The Americas, Asia-Pacific, Western Europe and Nordic including Central Europe. The other Business Areas had uniform functional management structures. The organisation was a matrix which combines the geographical regions and business areas. Konecranes Nordic Oy (KNC) was the holding company in the Nordic region. However, the matrix had not been complete and the responsibility areas of individual executives had crossed the geographical and regional boarders of the business.

Strategic cornerstones are growth and efficiency. The principal pursuits of growth are the development of the Maintenance Services Business and acquisitions. The crane user's own staff carries out an estimated 70 per cent of all crane maintenance. However, using specialists provides clear advantages which fuel the transition towards outsourcing, thus creating a growing business. The crane maintenance market is still in the early stages of its development and consolidation. The global synergies achieved by sales and maintenance service organisations pave the way for the KCI Konecranes brand. Market presence through Maintenance Services supports market penetration for equipment sales, and equipment sales enhance maintenance marketing. Globally integrated production provides lower costs through economies of scale. Modular design concepts facilitate the standardisation of components. The economies of scale apply also to production and purchasing, and are a driver for reduction in working capital requirements. The crane production and servicing industry is in a period of consolidation. This allows KCI Konecranes to enhance its growth and geographic market coverage through selected acquisitions (Annual Report 1998.)

The individual companies reported monthly to the corporate headquarters and to the next hierarchical level. Reporting along the two dimensions of the matrix was separated but reconciled during the tertial interim reporting. The interim reports were changed from tertial into quarterly during the research project. The forecasts dominate over yearly budgets. Strategic planning horizon is 3 years. Budgets also include a future scenario and SWOT-analysis. (KNC controller, interview 3 June1999.)

The monthly financial report included also three non-financial ratios:

- Lost contract ratio

Number of lost service contracts related to the number of new service contracts.

- Service hit ratio

Total orders received related to total quotations

- Pricing ratio

  Sales or orders quoted at prefixed prices related to total sales or orders

These measures were implemented in 1992 by a letter and instructions from the company CFO. The measures were not officially compared over business units. After 1994 the non-financial ratios became a part of routine monthly reporting (for reference see Lukka and Granlund 2000).

3.3.2 The research setting

The case organisation is the KCI Plant Services division, a new organisation in the Nordic Region Maintenance Service business area. This business started when several industrial companies outsourced their maintenance functions. The logic behind the outsourcing was either focus on own core competence or simply cost effectiveness by transforming fixed costs into variable costs. Many maintenance departments were incorporated and in some cases these independent companies were joint ventures with service providing companies. KCI's own maintenance unit which provided maintenance services for crane production, was incorporated and very soon it started to sell its services to outsiders. At the beginning of the 1990s an effort was made to get contracts for outsourced maintenance, covering all types of industrial services. Two individuals initiated this business, but the support from upper management was half-hearted because of the risky nature of the new business. The field operations of total maintenance were separate from maintenance services which was focusing solely on crane maintenance, in fear of problems ruining Nordic Region Maintenance Service business area's good image. There was no active search for synergies between these two businesses (PTP Oy general manager, interview 7 June 1999.) Anyhow the enthusiastic managers managed to get total contracts one after another.

The total maintenance business was initiated in 1985 by a customer who was willing to get other maintenance services in addition to crane service. The organisation was not ready and the competitor took the outsourced maintenance department and the company also lost a major part of the customer's crane maintenance. This rapid process was a shock for the company and an analysis of the situation was made. Successively it was decided that partners would be sought and markets that were near the crane business would be penetrated. It was also planned that the partners should have former business relationships and gain mutual benefit from the co-operation. Most of the potential partners were interested, but only one proceeded to concrete actions. Tepa-Mestarit Oy was finally established in

1991 as a joint venture with Outokumpu Oy. One of the workshops in Pori outsourced its maintenance to the new company.

The situation in the first total contract case was typical. The co-operation between production and maintenance was weak, and so was the trust in the ability to change. Furthermore, the age structure was biased by the high amount of elderly people. The operative control was inadequate. There were no investments in human skills. But after the acquisition the experiences were mainly positive, in spite of the customer's severe troubles with failing orderbook. The soft issues ranked high on the list of issues learned: take care of the people, raise the spirits, make operational changes, listen to the customer and reward if there is something to reward for. New methods, TQM and information technology were implemented. Thus the first total contract became the first success story and the business grew with new customers. There had also been a couple of severe failures. Long negotiations had led to a contract but after a short while the customer was sold and the operations laid down or the competitor could offer something more. Anyhow, the emerging business seemed not to be a threat to the image of the crane maintenance.

Table 3 Business units in KCIPS in 1999

Business unit and location	**Key customer business**
KTP Tehdaspalvelu Oy (KTP)	crane and elevator
Hyvinkää	industry workshops
Pirkanmaan Tehdaspalvelu Oy (PTP)	waste paper processing,
Tampere, Lahti	component foundries
Notepa Oy	corrugated cardboard packaging
Nokia, Nummela	industry
Tepa-Mestarit Oy	paper machine and oil rig
Pori	workshops, fibreboard ind.

In 1999 the business consisted of four independent maintenance companies each serving one or two main customers (see Table 3). Konecranes Nordic Oy (KNC), a holding company, owned wholly or partly the shares of these business units. The former maintenance department had over 200 customers but no total maintenance contracts except naturally with the own manufacturing business units. The parent company became aware of the existing market potential in its search for growth and joined different companies under the same management, to exploit the potential, calling it KCI Plant Services division. Marketing resources were increased and some consultants and a researcher (the author) were contacted to assist in the strategy work. A cautious admission to search synergy with Maintenance

Service was given. The main goal expressed by the business area management was growth. Profitability was a secondary target but the business area management required a positive result.

Table 3 specifies the business units, location and the business field of their key customers and Figure 23 shows the KCI Konecranes organisation and the position of KCIPS. Table 4 presents the sales and operating income figures of the KCI Konecranes group and Maintenance Services business area.

Table 4 The sales and operating income figures of the KCI Konecranes group and the Maintenance Services (meur).

	1997	1998	1999	2000	2001
KCI Konecranes group					
Sales	517	597	592	703	756
Operating income	39.0	42.6	32.1	39.6	55.3
Maintenance Services BA					
Sales	233	260	275	342	365
Operating income	18.1	20.8	19.4	21.3	24.1

A new division manager took his post at the beginning of 1999 and immediately started to draft a strategy process. Problems in the units clouded the start. One of the customers was closing operations and generally business seemed to be heading towards recession. The turnover was shrinking, for the first time since the business was started. The key persons in the organisation had different opinions about the direction of the division. These opinions had formed during years of tension between a risk taking manager trying to close as many total maintenance agreements as possible and the risk adverse manager of the company's own incorporated maintenance department, who opposed the idea of marketing and providing total maintenance and preferred their traditional way of operating, i.e. taking maintenance orders from customers. He admitted though that if the relationship matures with a customer total contracts may be possible.

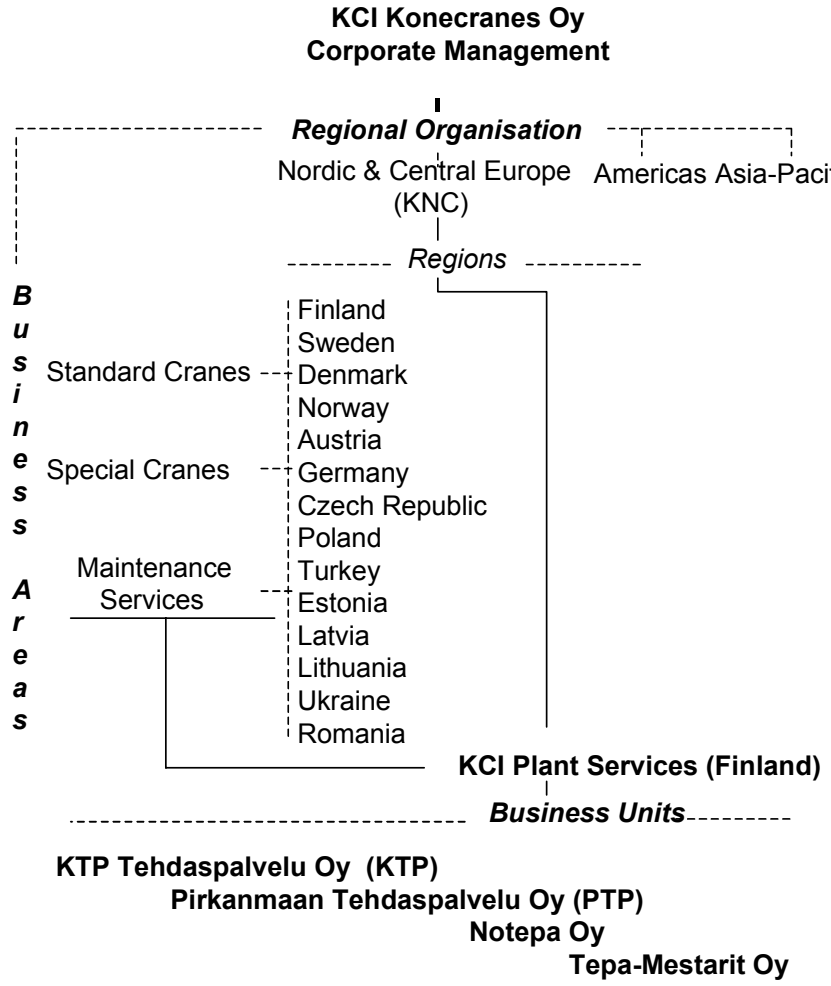


Figure 23 KCIPS division in KCI Konecranes group in 1999

The KCI group relied on financial control and had grown mainly through acquisitions. The planning influence is low and the financial control is tight. Global growth and concentration on technical core competencies drives the company towards strategic control. The differentiation strategy is focused on a specific crane sector and the company applies defender strategy. The corporate centre has a multidomestic approach in its relation to global business units. (see Goold and Campbell 1990; Porter 1980; Miles and Snow 1978; Mouritsen 1995).

3.3.3 An overview of the research project

Tepa-Mestarit Oy was KCI Konecranes' joint venture with Outokumpu Oy and the researcher was appointed as a company secretary of it in the early 1990's and held his post until leaving Outokumpu DCPD in 1999. The company was an outsourced maintenance department of a third party. The business was new for both Outokumpu and KCI Konecranes and the main interest was to learn about outsourcing business. The main motivation for Outokumpu was to learn to manage an independent maintenance company and to study possibilities to outsource its local maintenance in Pori. KCI Konecranes saw a possibility in this co-operation to start a supplier relationship with Outokumpu and penetrate a new type of maintenance market. After changes in the local management at Outokumpu the interest in co-operation decreased but the joint venture was successful and successively managed to make total maintenance contracts with other companies as well.

The post as a company secretary opened the researcher a front seat view to the development of a new market and new business. In addition to taking minutes of board meetings and having responsibility for board level administration the post included some operative issues which kept the researcher in touch with the actual business. Towards the end of the 1990's it became evident that Outokumpu was willing to exit the joint venture. Simultaneously KCI Konecranes showed interest in penetrating the outsourcing business for full. After leaving Outokumpu the researcher was offered a possibility to participate in the strategy process in a new division concentrating on the total maintenance contracts. This was an excellent possibility to utilise the personal experience as an advisor in the new division and simultaneously acquire empirical data which fitted perfectly the researcher's academic plans.

The KCI Plant Services Division was formed and a new manager started at his post at the beginning of 1999 and decided to start a strategy process and accepted the researcher as his advisor. The new manager was familiar with the BSC-concept and was eager to implement it in the future strategic control. The process started with defining the business position in relation to the more established competitors. The key issue was the choice of a strategic business area. Growth had been emergent and the resources were dispersing to several industries. The market base was too broad to create sustainable competencies. There were even different opinions if the division should make total contracts at all or to concentrate on planned repairs and on modernisations. The third big issue was the failing of the existing business.

The interviews of the key managers of the division took place at the beginning of 1999. The strategy process consisted of three interactive sessions,

strategy meetings, during 1999 and 2000. The participants were the division staff, business unit managers, key persons from business units' management staffs and representative(s) from corporate management. Smaller planning groups had a meeting before the actual strategy meetings. The researcher was actively contributing to the analysis work. The final post-project interviews with the division manager and controller were conducted in year 2002. Figure 24 illustrates the research process.

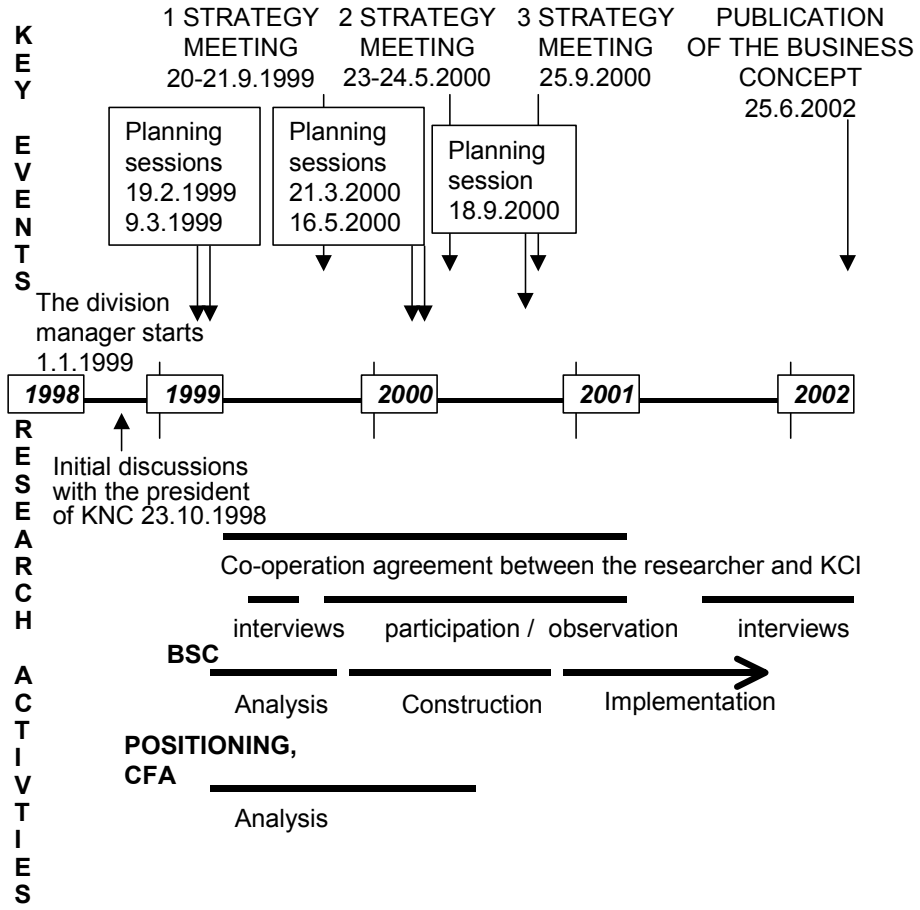


Figure 24 An overview of the research process in KCIPS

The strategy was fixed by the end of 2000. The focus was found, the future organisational structure was under design and the division had a steady trend of profitable growth. The implementation of the division's BSC started at the beginning of the year 2001.

3.3.4 SMA construct in the KCIPS strategy process 1999-2000

3.3.4.1 Business analysis

The ideas of the new manager were straightforward. The first step was to decide the target markets and to analyse the actions of the competitors. From the beginning of the process it was clear that the existing control systems were inadequate for future business. The new manager had previous experience of balanced scorecard and was fully convinced that this type of a performance measurement system would support the implementation of the future strategy and communicate the important issues. In February 1999 the key persons in the KCIPS division, two consultants and the researcher met to discuss the situation. The meeting was short and concentrated mainly on the possible contributions of the consultants and the researcher. The participants also heard a market review.

The same group met again next month to discuss the strategy process. The consultants were promoting a comprehensive management system developed by SCEMM[18] and especially their evaluation system of customers. The first of the issues discussed was how to create a brand for total productive maintenance, the second one was the plan for the strategy process and development of strategic control presented by the researcher. The strategy process suggested by the researcher included three main steps: 1) the analysis of the prevailing strategic position, 2) formulation of the new future strategic position and 3) strategy and strategic control systems implementation. The first strategy seminar was to be held in September in Mustio manor. The main issue was to be the analysis of the KCIPS's strategic position.

The strategy process started by analysing the skills and competencies of the personnel. Human resources were also as versatile as the businesses of the different units. Several options existed for the future business structure. The customers could be identified by industry or by process. The division marketing manager pinpointed some of the most problematic issues:

> *"Market segmentation can be done by industry on strategic level and by process on operative level. There are strategic customers which should be contacted by the upper echelons of the organisation… Co-operation with equipment suppliers is vital… The unfamiliarity of KCIPS is a*

[18] Scandinavian Center for Maintenance Management (SCEMM) is a maintenance suppliers' organisation in Nordic countries, which promotes maintenance branch and offers services related to maintenance.

problem…KCIPS has not any competence that the competitors have not" (marketing manager, interview 31 May 1999)

The general manager of KTP Oy, the former maintenance department in Hyvinkää, brought up the tensions between the different managers and the difference between their way of doing business compared to outsourcing business:

"Our business pattern has been totally different compared to this total contract model… There has been a wall between different units. This wall has been kept up by strained relationships between two key persons. This man (the general manager of PTP Oy) has provoked also other people and the co-operation has been very difficult. I do not accept his idea to leap directly to total contracts. We must first show our capabilities to customer by selling planned maintenance and on-call services. At the same time we secure our own skills. Slow progress decreases the risks like those he has taken by promising things to customers without any grounds." (KTP Oy general manager, interview 7 June 1999)

However, the general manager of PTP Oy seemed to be confident of his so far successful actions:

"Business is created only by people… The core competence is to minimise the conflicts and starting the change process of people immediately after the acquisition of a maintenance department. Even the most reluctant persons can become team leaders when the old unmotivating hierarchy is removed and energy, vigour and skills are freed." (PTP Oy general manager, interview 7 June 1999)

The controller of the parent company Konecranes Nordic Oy confirmed the tensions in the organisation and expressed general boundaries for the strategic planning:

"The different approaches created a wall between the general manager of PTP Oy and KTP organisation. The former manager of KNC kept the organisations separate, but now the new manager is uniting these organisations… The main point is that plant services organisation is not allowed to ruin the good reputation of the crane maintenance business…The operating result is not important during the growth phase, but it is supposed to be positive." (Konecranes Nordic Oy controller, interview 3 June 1999)

The two-day strategy seminar 20-21 September 1999 had representatives from all units. The first day started with an introduction by the new division

manager and continued by a competitor analysis prepared by the researcher. The controller of KCI Plant Services had co-operated in the analysis and provided most of the financial data of the competitors. During the afternoon the division manager gave a presentation on the planned strategy process and strategic performance measurement. The consultants arranged teamwork to assist in defining the "playground of action", a strategic template which was to be a framework of processes in strategic focus, i.e. markets by customers' production support processes. The last issue of the day was incentive systems which were presented on a general level by a consultant. The next day was dedicated to service concepts and competence profiles prepared by consultants who had interviewed the personnel and analysed their skills.

The positioning of KCIPS and its competitors confirmed the importance of focus on business. KCI operates in global niche markets of maintenance service for EOT cranes and manufacturing of EOT cranes, but would the new business be general or industry specific. The features of both cost efficiency and differentiation strategies were obvious. During the meeting in Mustio manor it became evident that penetration into all potential markets would lead to mediocrity in performance and KCIPS would be "stuck in the middle" permanently. The different potential segments were listed by industry and by process. The business in its present form was positioned against the main competitors using Porter, GE and Boston matrices, KCIPS was also positioned in respect of the integration to the customers processes. Appendix 6 illustrates the examples of the matrices. In the figure in appendix 6 C1, C2, C3 denote the main competitors.

3.3.4.2 Focusing the business

The analysis revealed the complexity of the situation. It also showed that the metal industry workshops, where the skills were also strongest, were in the core of the business. The big question was if this segment alone could secure sustainable growth. The big market of wood and paper industry was also appealing. After the seminar the approach to outsourcing was still open. It was clear though that the competitors were aggressive in this area and made total maintenance contracts. It was also self-evident that major growth was impossible only by selling more services to existing partners and casual other customers. The problem was that a lot of resources were tied up in active marketing in several other segments than the traditional metal industry. The results from the teamwork revealed the opinions about the products, i.e. processes the participants prioritised. Not surprising the total maintenance contracts rated highest in importance, followed by other long-term service

contracts, projects and planned maintenance. Consulting, repair shops and on-call service gained the lowest rates.

During the first seminar it became apparent that an interest was shown in comprehensive performance measurement mainly due to the pressures from the customer contracts defining agreed performance levels and from the quality management systems. But on the divisional level it was not possible to start the performance measurement development before the major parts of the strategy were fixed. The situation was consciously left open.

The division manager promoted open discussion but avoided escalating the old conflicts between key persons. It was too premature to give any information about the future structure of the business. Several options for both legal and operative organisations existed. The general managers of the independent business units ranked high in social status. Thus the profit centre organisation was seen as a threat both to the independence and to the status of them. In a matrix organisation the former walls between units could be broken, but the experiences of matrix organisations were not encouraging. The network of excellence centres was also a possibility to utilise the skills of different units and create synergy.

The next strategy meeting was to be held in May 2000. A task force planned the agenda of the seminar. The members of the group were the general managers of PTP Oy and Tepa-Mestarit Oy, the marketing manager, the controller and the researcher. The group had a meeting in March. The group implicitly assumed that the basic question of the market would be solved by May and the main issue would be the formulation of growth strategy and identification of success factors. Some marketing efforts in various industrial segments were still made but day by day it became clearer that the focus will be in metal industry. The division manager recalls:

> *"The greatest guiding factor was the orientation to metal workshops. The wide market concept was laborious. The decision on target market simplified the situation. After that decision branding and plans for individual customers were possible… There was a possibility of a conflict with the headquarters. If, by chance, we had successfully penetrated the maintenance business in sawmills or dairies, I am sure the headquarters would have intervened. The financial results and growth have convinced everybody. Nobody will anymore come and ask: Why don't we go to sawmills " (division manager, interview 30 April 2002)*

Clearly, there was an option to penetrate maintenance markets, other than metal workshops, and the possible reaction in the headquarter is merely speculation. But from the viewpoint of the division manager's superiors the machinery in the metal workshops was similar to the machinery in KCI's own

production of cranes and the company had acquired its maintenance skills during decades of practice. Penetrating some other industry would surely mean less effort on the development of the original business. The control of several strategic business areas would also be different and time consuming. The original plan at the beginning of the 90's in the company was to protect its crane maintenance business against total service providers. As far as the researcher could observe the expectations were on a non-discursive level and the corporate management had not set any explicit boundaries for the strategy work. In the division's meetings the mere option that the business could continue its growth into various industries, brought the issue onto the discursive level. The PTP general manager had quite an extreme idea. When the planning group met in March to draft the agenda and contents of the next seminar, the group discussed also other issues. The general manager of PTP was seemingly frustrated and expressed several times his willingness to retire, but, anyhow he was the most enthusiastic to steer the process to a certain direction.

> *"The synergy should be sought after in our own KCI group by orienting towards the mother company's customers. Now the co-operation with group management has failed. We shall focus (or should have focused) our effort on big customers." (PTP general manager, meeting 21 March 2000)*

This was controversial because the new division would with its wider service package compete with the own crane maintenance services.

The meeting decided to propose the division manager that the first day of the seminar would concentrate on the experiences and learning of the 90's in customer/supplier relationships and in the development of maintenance. The general manager of PTP, a development manager from the group headquarters and the controller of the division would give the presentations. The next day would be dedicated to performance measurement. The idea was to identify success factors and prepare the key persons for strategic control. The division manager, marketing manager and the researcher would present the issue. Teamwork was planned around some key questions.

Meantime the division manager was pondering how to formulate the vision and mission of the organisation. The first draft stated: First, "KCI Plant Services is the best provider of maintenance services for chosen customer groups in its market segment". Second, "we give partners fault-free, cost- and total efficient processes by systematic work, profitably, with joint efforts of companies' employees." The obvious audiences for these statements were employees and customers. The final version for the strategy meeting stated that "we want to be reformers of plant maintenance by being the best working

place for our employees and the best alternative for the customers.“ The set of services, ”the playground of action”, was focused on total contracts, service contracts, on-call service, modernisations, material services, planning and on education and consulting. The levels of maintenance vary from operating to failure (OTF) to design out maintenance (DOM). The services aim at continuous improvement of customer’s processes measured by availability, performance and quality.

The first presentation in the second strategy meeting was a history lesson for the new persons among the participants. During the first day the general manager of PTP, corporate development manager and the division controller evaluated the experiences from the first total maintenance contracts. The next day started with a short presentation by the division manager, and the marketing manager who presented the main criteria of customer’s maintenance need followed him (see Kaleva 2000). The main point was to evaluate customer’s need of efficiency, cost-effectiveness and the quality of service.

An essential starting point in customer relationship is the maintenance and operations quality audit. There are several options how to establish a systematic audit system. One possibility is the company’s own tailor-made system. Quality award criteria such as Finnish Quality Award, European Quality Award and Malcolm Baldridge Award provide full-scale audit systems. SCEMM has developed an evaluation procedure of maintenance and operations quality for machinery and production lines. The audit aims at measurable operational and financial targets for a 2-3 year period. Operational targets may include increase in utilisation rate quantified reductions in accidents, in failures and in unplanned shutdowns. These operational targets are also translated into financial terms. The evaluation is made by the organisation’s own workforce with the help of workbooks and an outside evaluator (SCEMM 1998). For KCIPS applying the quality criteria means the establishment of a systematic management system. Balanced scorecard qualifies for a management system which fills the criteria of the quality certificate or the award in question.

The total service agreements also necessitate a long-term relationship between the supplier and the customer. At its best the relationship evolves into a strategic partnership through an ideal process in Figure 25. Niederkofler (1991) argues for some normative premises for strategic partnership. Strategic fit and operating fit determine the evolution of co-operative relationship. Strategic fit exists when the partners’ interests in a specific area overlap and when each one controls part of the resources needed to pursue the shared goals. Operative fit addresses the ways and means in which the relationship can be implemented in a mutually beneficial way. Strategic fit must be

established at a top-management level, but operating fit must be achieved by the middle managers who implement the relationship. Only when co-operative management creates and maintains both strategic and operating fit will both firms be able to profit from a partnership. The negotiation process establishes the strategic fit but also lays a basis for the implementation of the relationship. The relationship's flexibility through changes can be enhanced through provisions in the contract and especially by the creation and maintenance of goodwill and trust. The escalation of operating misfit is avoided by tracking and solving immediately the recurring operating difficulties. A flexible agreement, goodwill and trust allow the partners to renegotiate and reposition the relationship, as long as a common basis of interests can be found. When the interests diverge to a stage where a continuation of the relationship does not make sense, the relationship is dissolved. (Niederkofler 1991, 256.)

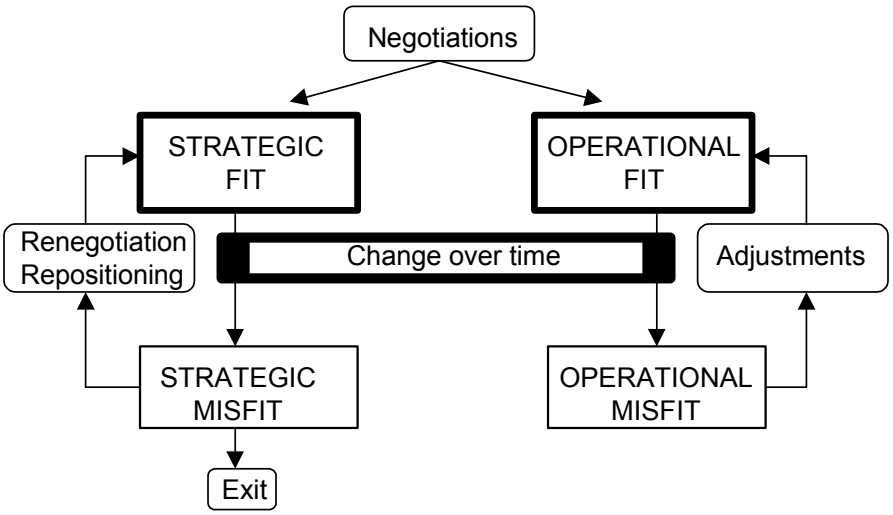


Figure 25 Ideal evolution of strategic partnership (Niederkofler 1991)

The introduction of a maintenance and operations quality audit and the emphasis on strategic fit with customers constituted customer-orientation. Both these issues were also arguments for growth in those strategic business areas where KCI/KCIPS had a shared, mainly technological, long-term interest with the metal workshop customers.

From the outsourcer's side there are three main control patterns in interfirm relations. In the *market-based pattern* the market mechanism is dominant. The relationship is based on competitive bidding. The market prices are directly

linked to the supplier's activities. The relationship involves periodical competitive bidding rounds. The future of the relationship depends on periodical evaluations and no specific control devices are needed. In the *bureaucracy-based pattern* the specified norms, standards and rules dominate. The selection of the supplier takes place by means of specific competence criteria and the relationship involves frequent supervision, performance measurement and evaluation, in which regular information supply plays an important role. In the *trust-based pattern* the relationship is largely socially embedded. Contracts are framework contracts which are specified in more detail during the course of time. The control devices are aimed at the development of competence trust and goodwill trust. (Meer-Koistra and Vosselman 2000.)

The control patterns of KCIPS' customers differ from each other. The first contracts had trust-based features for obvious reasons. The business was new and there were no market price or established action patterns. During the recent years, the market-based control has increased due to the customers' tight economic situation but in the future the bureaucracy-based patterns will dominate. The customer needs in contracts will be quantified and described in increasing detail. The bureaucratic mechanisms do not anyhow undermine the important role of trust in strategic partnerships. This evolution has strategic implications because bureaucratic contracting requires specific competencies and evidence on previous experience. This competence and experience is only gained through market and process focus.

The central measure of customers' production capacity is the Overall Equipment Efficiency (OEE) equation:

production quantity= theoretical maximum x (A x P x Q)

A= Availability %
(how great a part of the total time the machine is running)
P= Performance %
(actual production speed/ maximum)
Q= Quality %
(how great a part of total production is of the desired quality)

pq=production quantity
th=theoretical maximum

Example when the theoretical maximum of production is 100 tons of product:

th	x	(A	x	P	x	Q)	=	pq
100 tn	x	(85%	x	90%	x	95%)	=	73 tn

In this example the APQ value is 73%.

It is possible to express this ratio in monetary values by converting the ratio into lost time and multiplying it by the cost of machine hour. The value expresses the quality cost.

Availability is the factor on which maintenance has traditionally had a great effect but the importance of performance rate and quality for maintenance providers is increasing. (SCEMM 1998.) The role of maintenance as a strategic enabler has increased, which has also created pressures to develop other strategic performance measures (see e.g. Schnoebelen et al. 1999a, 1999b).

At this phase of the meeting it was evident for the participants that there were pressures to organise systematic performance measurement. Quality certification and the bureaucratic patterns in customer relationships called for strategic measurement. The external institutional pressures accelerated the internal strategic control needs. The existence of and intentions to create a strategic control system itself were at least of equal importance with the information it could possibly provide for internal purposes.

3.3.4.3 Introduction of BSC framework

The performance measurement part of the meeting started with a description of the coming development process. The Kaplan and Norton model was chosen among the various options because of the division manager's positive experiences. However, already in the planning phase Kaplan and Norton's (1996b, 278-279) tightly programmed process model was abandoned due to its massive top-down nature and its precise scheduling. Because the strategy itself and the key success factors were not clear yet, broad interaction was important during the process. The final goal was to implement a thermostat type of performance control device which was familiar to the participants from the quality management doctrines as the Deming circle. The third message was that this development process was a closed circuit, a continuous process adapting the strategy and performance measures to emergent needs. Combination of interaction and diagnostic control formed a double loop development process (see Figure 26).

This kind of development process, where the identification of key success factors has a major role, is typical in organisations which have perceived a

major change in their operational conditions and which are striving after control over the business in transition (see e.g. Fisher 1992; Olve et. al 1999).

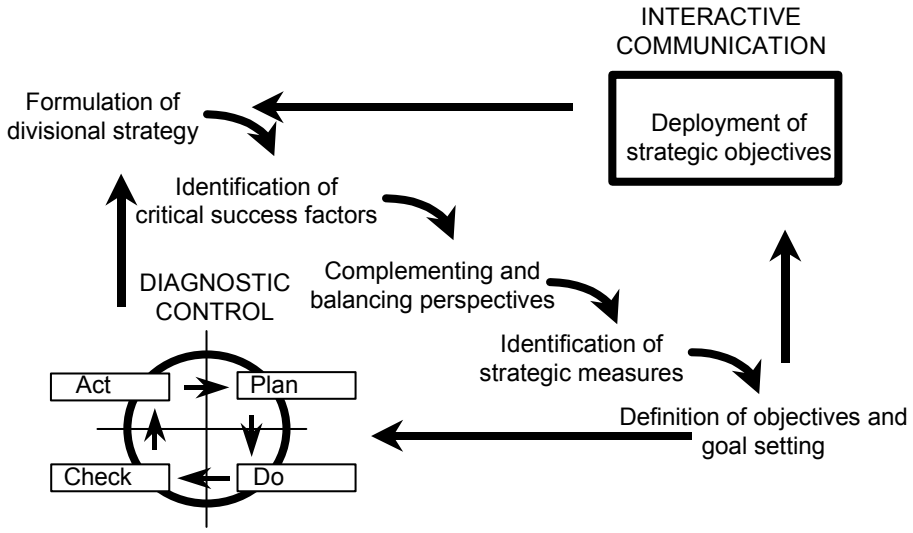


Figure 26 The development process of strategic performance measures

After an introduction by the researcher, groupwork was organised to answer some basic questions. What do our customers want in the future? What kind of responsibility do we take? What are our success factors? How do we measure our success from the customer's point of view? The participants ranked the development and commitment of the personnel as the most prioritised success factor. Customer satisfaction and honest partnership scored also high in the list. It seemed obvious that the personnel focus must be one of the key areas of performance measurement. There was also a general awareness of the central role of understanding the customer's needs. Although the customer-oriented attitudes were overwhelming, there were participants who were suspicious.

> *"Customer orientation had to be pushed through in some parts of the organisation… Branding was imposed and the documentation was resisted to avoid the others acquiring the knowledge." (division manager, interview 30 April 2002)*

However, the organisation generally acknowledged that the customer focus was an essential prerequisite for survival in this business.

The division manager, controller, a new assistant controller and the researcher had a meeting before the third strategy seminar in September 2000.

The subject of the meeting was performance measurement, especially the divisional application of balanced scorecard type of system. The basic structure of the system was obvious for the participants of the meeting. The financial focus of the mother company was to be balanced by customer, process and personnel focus, the three areas that had been emphasised most by the participants of the strategy meetings. The seminar would concentrate on the customer and personnel focus. The financial focus and process focus were taken as given supplementing already established measures of corporate reporting with measures which the division manager suggested. Many measures were also implemented in the contracts between the units and their customers. The group analysed and listed these measures. The division manager perceived the causal relationships between the different measures as an unimportant issue.

> *"Causality is complex because of the numerous factors having an impact on financial result. It is enough when a single essential thing has failed…It is not important to prove the causality between the measures. It is enough to know that there is causality. The main thing is that you see from the scorecard those things you should concentrate on."(division manager, interview 30 April 2002)*

The consolidation of the measures did not bother the division staff either. Some of the measures were to be consolidated and some of them could be reported by unit. The group decided in the groupwork to produce ideas on performance measurement. The groupwork was to be arranged around three questions. How do we measure our contribution to our customer? How do we measure the loyalty of the customer and the realisation of the partnership? How do we measure the ability of our personnel to maintain and develop the partnership with customers?

3.3.4.4 Formulation of the strategy

By September 2000 the focus of the business was becoming observable. Those persons who had operated outside the core business had left the company or were to leave it. The general manager of PTP Oy, the pioneer of the new business was not present. His retirement was just a question of timing. The final decisions of the organisational structure were still open but the marketing strategy was clear and it had already shown signs of future success. The division manager had compiled a set of objectives:

- Growth
- Profitability

- Skills
  - Superior customer skill
  - Superior project skill
  - Superior co-operative skill
  - Superior technical and operating skill
  - Service brands
  - Information management in the entire organisation
- Development of partnership with customers
- Development of internal partnership between units
- Development of partnership with the KCI Konecranes service net

The big issues were moving ahead and now it was possible to start drafting the performance measurement system which was planned to be implemented from the beginning of the next year.

3.3.4.5 Construction of the KCIPS performance measurement system

The researcher introduced the subject of the third strategy seminar, gave a presentation on strategic performance measurement and organised the groupwork to brainstorm the measures for the KCI Plant Services division. Predictably, availability scored high. But it became also evident that cost-effectiveness is one of the most important issues for the customers. Follow-up of the customer contract clauses, i.e. the measures of satisfactory service and the duration of the contracts, were important. Ability to work, personnel initiatives and evaluation of personnel skills ranked highest in the third workgroup.

So far the process had been interactive, but now it was time to make decisions on those measures which were to be developed and implemented. Some of the predefined financial and process measures were already available, but the customer and personnel measures had to be developed from the beginning. There was no fast track and the division had to manage with scarce resources, but the division manager did not seem to be worried.

> *"The explication of targets will steer the development of measures… The documentation of the target produces action. The complete measure is not needed (immediately)." (division manager, interview 30 April 2002)*

The corporate headquarters was interested in the development of the performance measurement but not so much as in the financial performance itself. The growth was promising and the financial result of the division was satisfactory. The division was given free hands and the systems of the mother company were not imposed on the new division. KCI Konecranes was in the

process of implementing an enterprise resource planning system delivered by BAAN company. This project was called Omniman and it was started in the USA. The project tied up a considerable amount of corporate resources also in Finland. The project managers were changed several times and the project drifted into severe troubles early 2000. After ten months of negotiations KCI Konecranes started legal actions against BAAN company. The division manager commented the control systems of the mother company and explained the relatively slow progress (for reference see Lukka & Granlund 2000).

> *"KCI does not know BSC. The rush steering acknowledges only market situation and the financial result… The measuring culture is still to be found." (division manager, interview 29 March 2001)*

Later he confirmed these thoughts.

> *"At KCI there is no balanced scorecard culture. The centre does not use comprehensive measures in control but result controls. It is, however, assumed that the performance measures are in good condition but the centre sticks to result controls." (division manager, interview 30 April 2002)*

The official corporate monthly report form, though, included the three original non-financial measures, lost contract ratio, service hit ratio and pricing ratio, under "reliability figures" title, but KCIPS reported only service hit ratio. KCIPS staff perceived generally the implementation of corporate non-financial measures as incomplete.

The division controller has a key role in the implementation of new control systems, but his attention was focused on financial control matters during 2001.

> *"Luckily I have managed to keep myself apart from the measurement system. The changes in company structure have consumed so much of my time." (division controller, interview 30 April 2002)*

An assistant controller was hired to develop the BSC system, but when the centre lost one of its controllers the division assistant controller was temporarily transferred to reporting duties. Although she had given considerable effort to the development of the BSC reporting template, she was still engaged in reporting as well at the beginning of the year 2002.

3.3.5 Implementation of the performance measures

Since the strategy seminar in May 2000 the central idea in strategic control was to promote customer orientation and the importance of human resources in future success of the new division. The new values were communicated from the beginning. The groupworks showed consistent results. There was a shared vision of the important issues after the tensions around the strategic development had been solved. The mother company gave the financial focus as well as most of the internal process measures. Table 5 links the development process of the performance measurement system to the key events of the strategy process.

The division manager's positive previous experiences of BSC were of crucial importance in the successful implementation of KCIPS' performance measurement system. The division's own application of balanced scorecard expressed important values in the new business, customer and personnel. The causal relationship between these perspectives and the financial outcome in the long run was perceived as self-evident. As a managerial construct this measurement system concentrates on the few important issues, but the commitment and determination of the division manager has established it as a permanent control system in the organisation.

Table 5 The development process of strategic performance measurement

STRATEGY PROCESS	SMA DEVELOPMENT
19.2.1999 and 9.3.1999	
strategy process planning -product strategy -control systems -networks	-general introduction to SMA practices
20-21.9.1999	
1.strategy meeting -strategic position analysis -skills and competencies	-present strategic position and future options -information pack of strategic performance measurement
21.3.2000	
identification of strategic issues -agenda for next meeting	-implications of customer partnership
16.5.2000	
strategy process planning -elaboration of strategic mission -performance measurement	-financial and internal business perspectives -elaboration of customer perspective
23-24.5.2000	
2. strategy meeting -experiences from the past -market focus -customer partnership	-interactive identification of success factors -personnel perspective
18.9.2000	
strategy process planning -strategic performance measurement	-elaboration of strategic objectives identification of financial and business process measures
25.9.2000	
3. strategy meeting -strategic objectives -strategic mission -strategic control	-identification of strategic measures

The balanced scorecard of KCIPS is depicted in Figure 27. The following measures were fixed at the beginning of the year 2001:

Financial focus

The main financial goals were profitability and growth. Profitability was measured by return on sales (ROS) and contribution margin (CMII) per contract. Growth was monitored by the market share and by the development of turnover.

Process focus

The process goals were productivity and efficiency. Productivity was measured firstly by a ratio of added value to wages and salaries and secondly percentage share of hours billed. Efficiency measures were the ratio of staff to

operative personnel and the ratio of on-call to total sales. The third efficiency measure was the availability of the customer's process per contract.

Customer focus

The customer-oriented goals were customer satisfaction, the development of customer's processes and customer's cost efficiency. Customer satisfaction was followed by customer satisfaction surveys and by the number of claims. The process development was measured by the number of initiatives made. The costs of customer were related against the targets defined in the contract.

Personnel focus

The personnel-oriented goals were competence development, continuous improvement and personnel satisfaction. The competencies and skills were monitored by competence profiles, continuous improvement by implemented ideas and personnel satisfaction by development in the results of personnel satisfaction surveys.

The strategic goals and measures were logical but the major part of the data was missing. Market share was a "guesstimate". Continuous improvement was followed in one of the units. The competence profile had been analysed once by the consultants. Customer claims were registered randomly. Customers' process development was a totally grey area and cost-efficiency was measured in as many ways as there were customers. Customer satisfaction was perceived as the most critical issue. A customer satisfaction survey was organised in co-operation with the local polytechnic. A contact person was appointed in the division to develop a permanent cusatomer satisfaction measurement system. Other problematic areas of measurement had no persons in charge. The division manager retained the responsibility of the development work and did not delegate it. He was apparently reluctant to start a massive project with the division's scarce resources, but expected evolving commitment from the units during the implementation period, i.e. the year 2001.

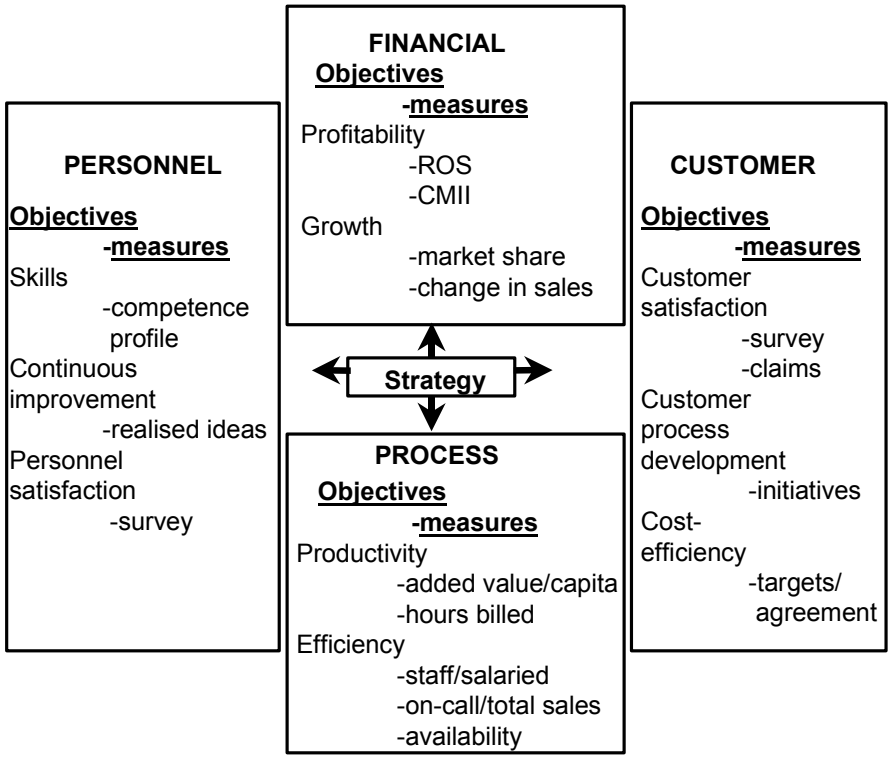


Figure 27 KCIPS balanced scorecard

In the autumn of 2001 the operations were on planned tracks. The results from customer satisfaction survey were available and caused anticipated reactions. All new personnel went through competence analyses which were documented. The measurement of work satisfaction was still not in use but there were systems options under consideration. In the year 2002 the performance measurement system was fully in operation, although there were still some measuring systems to be developed further. The financial and process measures were consolidated but both customer and personnel measures were reported only by region. Some of the measures were not yet implemented in all units as the division controller comments:

> *"The discussion has been practical. Some of the units collect the data and some of them do not. West had to develop their measures because of their quality certificate…The division staff has not, or at least I hope, that it shall not have to impose the performance measurement system and I hope that the units will have interest to develop themselves their own measures." (division controller, interview 30.4.2002)*

The performance report was labelled as balanced scorecard and it included a report sheet of every regional unit and a sheet for consolidated figures. The report is produced tertially. The report contains actuals, previous year and previous tertials up-to-date.

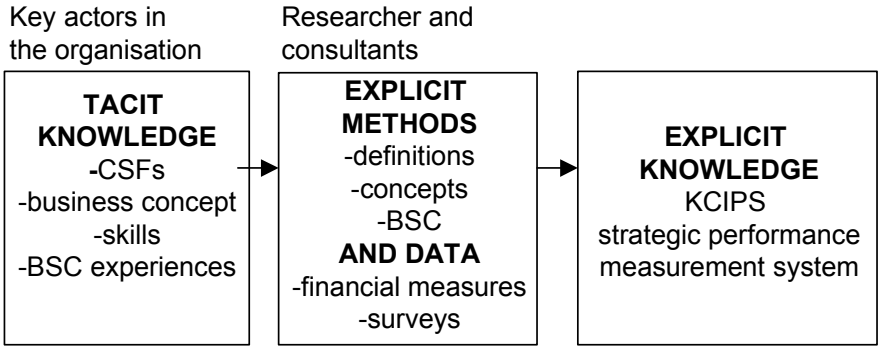


Figure 28 The construction of KCIPS' performance measurement system

The internalisation of the main issues in KCIPS' strategy process, focused customer-orientation and the need of multidimensional measurement, was successful and the process could move to the actual formulation of the new strategy. The discussion around the simple business scenarios led to two-fold socialisation. The new division manager adopted the culture of the company and directed the strategy towards the traditional areas of business. On the other hand the resistance from the opponents decreased when the so far tacit knowledge, experiences and personal views, were shared during the strategy meetings. Figure 28 illustrates knowledge creation in the construction of KCIPS strategic performance measurement system. The process was externalisation of the key actors' tacit knowledge of the business concept itself, critical success factors and skills in the organisation. The division manager had also tacit knowledge about BSC through his previous experiences. The researcher and consultants provided the explicit descriptions of definitions, theoretical concepts and, especially BSC framework. Thus the tacit knowledge was turned into a strategic performance measurement system of 16 measures which monitor the outcome of the strategy. The externalisation would be continuous introducing new measures when needed.

3.3.6 The role of BSC framework

The division manager had also a practical long-term approach to the development work.

> *"Those measures which develop slowly are those that are needed the least. When there is no need of measures there are neither problems. There is no need to rush. The systematic measurement is evolving when the issues are absorbed" (division manager, interview 30.4.2002)*

The quote reveals that the division manager perceived the construction process as, at least equally, important as the information the exact figures could give for the moment. The division manager had a strong image of BSC based on his previous experiences and the construction of BSC measurement system was the core of the strategy process. The branded image of BSC brought the consciousness of the importance of the strategic change into the organisation and gave professionally a legitimate cause to introduce strategic control. For the manager personally the construction process was also a learning process, which explains the division manager's central role in the process and reluctance to delegate his responsibilities in the construction.

The division manager had not presented the divisional performance measures in the rush steering meetings, but they have become a part of interactive management in the division staff meetings. The development of the performance measurement system was met with indifference in the corporate centre, which is partly explained by the centre's simultaneous troubles with the ERP-system implementation.

What then makes KCIPS' BSC *strategic* performance measurement system? The system emphasises customer and personnel, the two most important elements in the business. It also pinpoints the strategic nature of the partnerships with customers by measuring the customer process development initiatives and it reminds of the skills of personnel in order to make those initiatives possible. Although the issue of causality was overlooked during the process, the reader may see BSC's causal logic here ultimately emphasising the maximisation of owners' wealth. The financial outcome was never emphasised during the strategy even if the controller of the parent company KNC (interview 3 June 1999) prioritised growth over the operating profit. However, it was obvious for all the participants that the financial outcome guaranteed the survival of the division in the long term.

3.3.7 The outcome of the strategy process, KCIPS 2001-2002

The status of the KCIPS management had improved rapidly. The satisfaction of the corporate centre was visible. In the beginning the manager and the controller shared a room in a cabin beside the local maintenance workshop. After successive removals the division staff occupied proper space in an office block together with other centre staff. The doors to the corporate rush steering meetings were opened to the division manager. The sales of KCI Plant Services had grown from 10.3 meur in 1997 to 21.3 meur in 2001.

KCI Plant Services was an organisation of four independent regional firms from the beginning of the year 2001. The regions were South, East, Central and West Finland. These companies existed already legally, but they needed new names to give them all the same KCI brand image. The legal structuring was not yet finalised, but the joint venture with Outokumpu had been dissolved and KCI had bought the shares of Tepa-Mestarit Oy from Outokumpu Oy after it outsourced the maintenance department to the competitor of KCI. Figure 29 illustrates the KCIPS organisation at the beginning of the year 2002. The key figures of Maintenance Services business area include the KCIPS division but the division manager reports to the group vice president who has the responsibility of the group development in Europe.

The organisational choice was made between the independent firms and a profit centre organisation in matrix form. The division manager had severe doubts about the matrix organisation even in the beginning and he did not believe in cross-functional assistance. “Touring teams do not make business.” It was also possible to react faster in independent firms in case of rapid downsizing and there were also considerable cost advantages balancing the bureaucracy. He was also conscious of the motivating effect of independence. (division manager, interview 29 March 2001.)

Figure 29 KCI Plant Services Division in KCI Konecranes group 2002

The division was formally acknowledged 25 June 2002 as an important part of the company. The company president and CEO made the following comment in the interim report (13 August, 2002, 10.00 a.m.):

> *... Our maintenance activities continue to grow, and our new product ranges capture increasing market shares. On June 25, in a Capital Market Day meeting, we presented our Plant Maintenance activities. Employing the same set of skills, assets and business rationale as crane maintenance, Plant Maintenance will provide considerable growth prospects. The total market potential for Plant Maintenance is 5-10 times that of pure crane maintenance.*

3.3.8 Comments on the KCIPS strategy process and SMA constructs

During the strategy process CFA was applied but not implemented. The reasons were threefold. Through the market focus the number of competitors became limited. The monitoring of the well-defined niche was relatively easy. Competitors' official financial measures were relatively easily attainable when

needed. Finally, because of the small size of the division, the information was easily dispersed by interactive means.

The positioning tools effectively steered the decisions towards a focused market strategy. The matrices were also effective communication media.

A performance measurement system was developed during the strategy process. From the beginning of the process the strategic performance measurement system was called balanced scorecard, in spite of the researcher's continuous efforts to rename it. However, the process itself and the resulting system differ fundamentally from the original ideas of Kaplan and Norton (1996). Three important issues arose from the KCIPS' development process of performance measurement.

First, the process was interactive[19]. The centre did not impose it and the division's influence on business units' reporting was modest. Kaplan & Norton model requires a well-formulated strategy which is explicitly communicated to the rest of the organisation. During the KCIPS process the centre did not try to constrain the planning process, even though the division manager anticipated the possible reactions of the centre. The process was also tightly embedded in the strategy process and for the formulation of the new business concept. The identification of the key success factors was an important issue in this process[20]. The interactive process created mutual understanding and commitment to the new business concept. It was also an effective learning process for the organisation's young members and especially for the new manager.

Second, the organisation adopted a four-perspective framework of its own which was derived not from explicit and precise strategic objectives as Kaplan and Norton suggest, but from rather vague mission statement types of objectives[21] through an interactive process. The financial perspective had top priority and the centre's financial measures were not challenged. Paradoxically the cause-and-effect relationship between the financial measures and the other measures was regarded as unimportant.

Third, the scope of the project was economical. The new manager used the scarce resources available effectively and the project was planned to concentrate on the most important issues perceived, the customers and the people. Emphasis was on communication. The central idea was to create few but viable measures instead of a massive amount of laborious measures.

---

[19] Empowerment of teams through performance measurement systems, see Meyer (1994)

[20] Identification of key success factors in BSC implementation process, see Olve et. al (1999); Veen-Dirks and Wijn (2002).

[21] Modified BSC frameworks, see Ewing (1995); Butler et al. (1997); Malina and Selto (2001).

3.4 Summary of the empirical findings

3.4.1 The roles of SMA constructs in strategy process

In both case organisations SMA practices did not have only one single role in the strategy process (see Figure 30). The starting point of both processes was obvious, the financial analysis of existing businesses. This phase was relatively easy for KCIPS due to its organisational structure of independent business units with their relatively few key customers. Each unit had a profit and loss (P&L) account of its own and even the customer profitability was easily accessible.

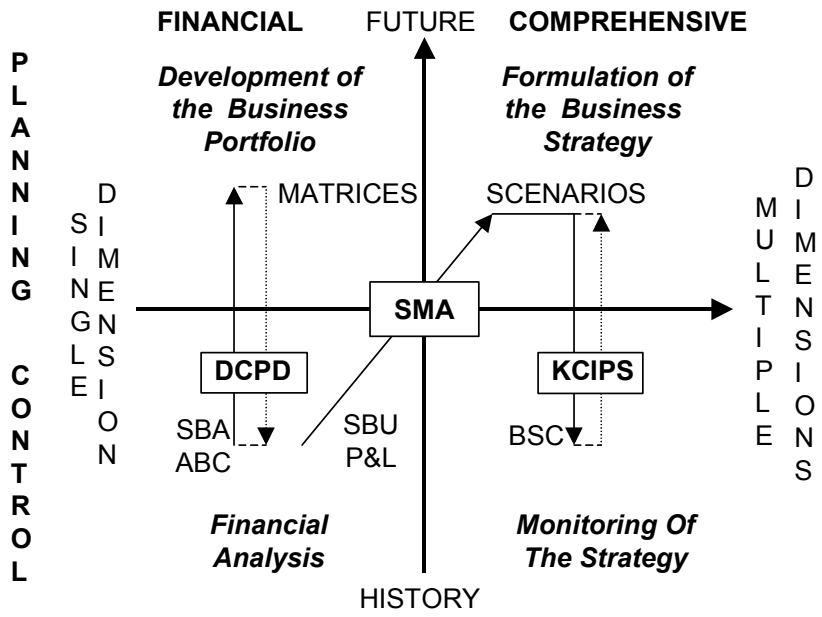


Figure 30 The roles of SMA in strategy process

The situation in DCPD was much more complicated because of the complex business structure. ABC advanced the understanding of the business processes and profitability of different SBAs. The construction of the business portfolio succeeded and DCPD moved into the business portfolio development phase which turned out to be impassable. The striking feature in this process is that it never actually proceeded to the strategy formulation phase even though the organisation was prepared for this. The result of the process was merely a formalisation of the business strategies in the business units. Even the CFA

construct was reduced to a reporting system and it lost its strategic grounds after the strategy process. The reasons for the miscarriage of a new business concept can be many. In the light of the later events the business area management did not see any credible concept in their own eyes to legitimise the existence of the division and successively dissolved DCPD, which complied with the recent organisational development in Outokumpu group, when the company started to decrease its organisational layers.

In KCIPS the process proceeded from analysis to formulation phase. The portfolio approach was not viable due to the early focus on a specific market, which homogenised the business concept. The scenarios had an important role in the strategy formulation. The third phase of the process was the monitoring of the new strategy. The scenario made the planning of the objectives possible. The balanced scorecard in KCIPS monitors the outcomes against these plans.

Both case organisations developed performance measurement systems which employed both financial and non-financial measures. In KCIPS case the development process was profoundly linked with the strategy process. The customer and personnel perspectives of the framework are strategic emphasising the long-term needs of the customers in the core business and emphasising the skills of employees compatible with these needs.

In the DCPD case the introduction of a market-oriented SBA structure, although short-lived in DCPD, had an impact on the business area in the conception of the nature of the copper business. The customer-orientation was introduced by the American business units which perceived the market through individual customers, but the change in the minds of the business area management evolved first after the business area strategy process.

3.4.2 The nature of the SMA constructs

The ultimate goal of both division managers was to change the worldview from a technology-oriented rationale to a customer-oriented rationale. The need to change was based on a perception of current mature markets and potential new markets which, however, operate in different conditions. (see Mintzberg 1994, 240.) The penetration to new markets is associated with discontinuity of present long-term patterns of action which, naturally, does not mean that the basic technological competencies and human skills are redundant, on the contrary, the managers perceived that the technology may still be the competitive advantage but the course of actions will be different in the development of the company.

The prescriptive strategy schools lead one to think that strategy making is deeply associated with formal planning procedures. However, the case

evidence illustrates the incompatibility of planning with strategy making. Strategic planning pursues the strategy created by other means. This is programming of the consequences of the given strategy which specifies the determined course of actions for the organisation (see Mintzberg 1994, 241).

Mintzberg (1995, 321) claims that the planning school is founded on grand fallacy. Analysis cannot substitute for synthesis, no amount of elaboration will enable formal procedures to forecast discontinuities, to inform managers who are detached from their operations to create novel strategies. Mintzberg's claims seem rather pessimistic. He promotes intuition which can lead to a dramatic form of innovation or none at all, compared to analysis which may only produce marginal innovation. However, he does not dispute the importance of planning *"... effective strategy formation, especially in large organisations, does depend importantly on analysis, both as input to the process and as a means of dealing with its outputs."* (Mintzberg 1994, 329).

The experiences and observations during the field research are in line with the results of recent SMA research which claim the absence of references to the SMA concept among management practitioners, but the research also illustrates how individual SMA practices had different important roles in knowledge creation depending on the phase of the strategy process and type of the practice. A conceptual conclusion from the study is that *strategic management accounting is the provision of financial and other information, meanings and shared assumptions for the needs of the strategy makers in enterprises' strategic development.*

The empirical setting emphasised the individual learning of two new division managers who had no prior experience of the organisation and business they were entering. Both of the organisations also faced major challenges when they strived for new businesses. This process called for the creation of new knowledge, in the sense that the heterogeneous and disoriented thinking in the organisation could move to new areas and produce categorisation and prioritisation of the current businesses, and more importantly, produce categorisation and prioritisation of potential new businesses.

During the first phase the knowledge creation in DCPD was a combination of external professional knowledge and information which already existed in the organisation. Consultants and academics facilitated ABC and portfolio-techniques which reconfigured the information in various databases. SMA functioned as a systemic device producing new information in the first place for decision-makers' interpretation.

The analysis phase led to different outcomes in DCPD and KCIPS. In DCPD the process proceeded to the development of the business portfolio and to the internalisation of the explicit information in the various matrices, tables

and diagrams. The documentation of the strategies in the individual SBAs helped the organisation members to understand each other and the situation of the division in its entirety. The division manager put a lot of effort to the communication of the SBA portfolio concept in order to gain shared mental models of the business. What seemed to be a start for a success inside the division was apparently not accepted in the OCP headquarters and the process ended in status quo. In KCIPS the outcome was a formulation of a new strategy. The different market scenarios brought up the fact that the organisation was growing to areas where the traditional skills and competencies of the organisation were non-existent or weak. The division manager adapted to the organisational culture but, on the other hand, the good experiences, market potential and the inevitable decision to stick to the customers with familiar technology, convinced those who originally opposed to the total maintenance idea of the benefits in entering the outsourcing business for full. The atmosphere during the strategy meetings in both divisions encouraged socialisation between the key members of the organisation in situations such as shared meals, forest trekking, golf, sauna and occasional beers. The meetings were held in rather isolated places, which minimised the disturbances from the outer world and enabled the concentration on important issues during the social events. The factual data and information shared during the presentations was a minor part of the knowledge compared to the mutual understanding and experience sharing created outside the meeting rooms.

The central theme of the KCIPS strategy process was the construction of a strategic control system. The dialogue around the performance measurement was an intensive and effective means of converting the tacit knowledge into explicit. The teamwork of the participants in the strategy meetings turned the tacit knowledge about the importance of personnel and customers into explicit measures. In DCPD the implementations of performance measurement systems led to failures. Later, after the dissolution of the divisions the OCP management imposed the operative performance measurement system. Almost simultaneously the corporate management started the BSC project. Though the systems were imposed, the former DCPD manager emphasised the business unit learning aspect of the operative performance measurement system.

The cases underline the notion of a gap between the actual usage and perceived merit of SMA practices (see e.g. Guilding et al. 2000). During the strategy process there is a greater need of information than what accounting can supply. The normative models of strategy processes do not make explicit references to management accounting and correspondingly most of the management accountants do not have educational or professional competence to identify the potential contribution of management accounting to the strategy

process. Consultants, on the other hand, are interested in their own special area ABC, BSC etc. which are linked to their own management doctrines rather than those strategy schools up to which the managers try to live.

The study also highlighted the dual function of SMA constructs. First, the case settings emphasised the strategic nature of ABC and BSC, and especially, the strategic nature of the adoption processes of these constructs in a situation when the need for strategic renewal was apparent. From the knowledge creation point of view the construction process has a potential which may exceed the strategic ability of the final implemented version of a SMA practice. A longitudinal case study turns the attention to the process, which explains the central status of ABC and BSC in the study compared to the recent SMA surveys and field studies (Guilding et al. 2000; Roslender and Hart 2003) which overlook these practices. The constructs contributed to the defining of the strategic position as well as to the analysing and monitoring of the operative effectiveness by creating explicit formal information, i.e. creating knowledge.

Second, the directly observed contribution of SMA was much weaker on the tacit level but the well-known practices of business positioning and scenario building contrived meanings to the analytical data. Combined with the experiences of the managers the accounting data formed social bridges between the individuals and facilitated the development and formulation of strategy. Amazingly, these traditional tools of strategy work are not recognised in the SMA literature, even though the primary input to the matrices and scenarios come from the accounting function. The positioning school may be an explicit or implicit background for SMA-typology (see e.g. Roslender 1995) but the normative SMA literature on this issue is practically non-existent.

The empirical findings suggest that in addition to the conceptualising and systemising roles, SMA practices have an important role in the operationalisation of explicit knowledge. It is difficult to observe the contribution of existing SMA practices to strategy formation which takes place in the tacit domain of individuals. Intuitively, the idea of advanced SMA practices which support the strategy formulation, is appealing. The KCIPS case suggests that the results of the technically simple scenarios had a major impact on the tacit level and facilitated the emergence and socialisation of a shared vision. The construction processes of management systems which rely on SMA constructs may cause tensions, fail or have radically altered nature when finally implemented but the research suggests that even the development process itself may change the behaviour of the organisational members on all the levels of the hierarchy.

The SMA framework of this study belongs to the group of typologies which emerged during the 1990's (e.g. Wilson 1995; Bromwich and Bhimani 1994; Roslender 1995; Lord 1996; Kasurinen 1998). The main difference is its close linkage to the continuous strategy process in practice. This contribution to SMA discussion has, though, its limitations. The practical business problems initialised the constructive research and it covered only those practices which were relevant in the empirical context. Thus interesting new practices fell out from the scope of the study (e.g. brand management accounting, Roslender and Hart 2000).

The SMA practices employed in the case organisations' strategy processes had obviously potential to contribute to the change of the basic corporate rationale in the divisions. The following chapter deepens the analysis into the social dimensions of the SMA constructs and describes the social consequences of the introduction of these constructs. The chapter draws on the structuration theory and aims at an explanation of the relationships between the different social systems and managerial behaviour in the production and reproduction of organisational practices.

4 THE SOCIAL DIMENSIONS OF SMA CONSTRUCTS

4.1 Social systems

The empirical material has raised some so far unanswered questions. In the DCPD case two implementation processes of performance measurement led to different outcomes. After the DCPD implementation of balanced scorecard failed the SPEED model introduced a performance measurement system which is operative and SBU specific. In the KCIPS case after years of contrasting opinions and tensions a strategy process led to a widely shared vision of the business concept and acceptance in the corporate centre, which became evident when the new division was allowed to use the corporate logo and name. What actually happened? What was the role of SMA in these processes?

The case narratives described management accounting in its strategic context. During the strategy processes strategic management accounting, as a general term, was not in use and the concept itself was introduced by the researcher first after the development process had started. In this sense SMA is an academic idea of the researcher. The primary actor in this study is the manager pursuing control over the future and present business operations. The manager's task is highly uncertain. The information required by the manager exceeds the information possessed by the organisation in many ways. In this situation the manager individually decides on the substance of strategic management accounting information. This decision is naturally constrained by the cost, i.e. the capability to gather the data and process the information, but this does not change the fact that the manager chooses and prioritises his own strategic levers of control based on his interpretation of the business problems. Naturally, he may use the advice of staff experts.

The outcomes of the construction processes cannot be explained by the internal logic of the SMA practices of the normative literature. The researcher encountered social phenomena such as engineering culture, authority, resistance etc. on several occasions. For the individual manager the resources he mobilises are of crucial importance, and the available resources are critical to the strategic change and management accounting change. These phenomena are very often essentially linked to the course of events during the process. New ideas and new reality encountered several cohesive cultural barriers. The

responsibility areas were hierarchical and functional. The individual functional responsibility areas were much more important than the value chain. Because of the strong local cultures, efficient mutual learning between the different business units was difficult and the formal systems did not support the information exchange. The corporate histories are based on technological innovations. The existence of the companies is based originally on their unique technologies. In engineering culture the technological advancement and technical solutions in products are separated from the customer needs.

The influence of the division managers was based on personal control systems. Their authority was formal and vested in the office. Ideologically, new ideas were diffused by co-operative programmes with the personnel and through staff education and personal development programs. The skills and knowledge of the organisations were increased also through consultants and co-operation with universities. In this way the knowledge of the organisations' own businesses increased. An important element was the division managers' own expertise and own network of experts in several areas. The political manoeuvring was possible because the financial results were promising from the beginning of the processes and the divisions' cashflow covered all the costs of the change processes. On the other hand, the division managers were objects of political manoeuvring. The power of the division managers was mainly exercised through investments in skills and knowledge of the human resources, but the final decisions on individuals were ultimately the responsibility of the business area management.

The following subchapters theorise the phase between the adoption and implementation of SMA practices, when new systems emerge. During this phase the focus of SMA turns from strategic issues to operative effectiveness reproducing the operative systems of corporate accountability and managerial control. The argumentation draws upon structuration theory, management accounting literature and upon the empirical material.

During the research process the managers were conditioned by structures external to organisation such as professional, academic, gender, personal networks, ideals of conduct, and social peace. Many of these systems and structures are well studied (for references see e.g. Whittington 1992; Scott 2001; Dacin et al. 2002) and their basic rules and resources are known (see Whittington 1992, 705; Scott 2001, 77). During the fieldwork the process of institutional change at large was also observable. Globalisation and supplying outsourced services exposes the company to alien structural properties and principles. Strategy, strategic planning and strategic control are national and culture-bound concepts. The case companies represent classical Anglo-Saxon

strategic planning and control tradition although these companies have been years in the sphere of Japanese operational management doctrines' influence[22]. All these structures have an influence on agents but the notification of two types of social systems, the prevailing economic system and professional systems of management, capture the major external social influences on the managers in the case settings.

From the empirical material emerge two themes of internal social systems, accountability and managerial control. The managers participated in these corporate systems as objects of accountability and control but also as subjects exercising control and holding subordinates accountable for their actions. The systems are partly overlapping but clearly separable. Generally, the managers of the case organisations were accountable for various issues which, however, were not for the most part controlled but expressed in vague demands (DCPD manager, interview 22 August 2001; KCIPS division manager, interview 30 April 2002). Both companies were under a transition period from technological accountability towards accountability systems which were organised around the financial performance. At Outokumpu this transformation was observable at all the levels of the organisation. At KCI Konecranes the financial accountability was increasingly invading the lower levels of the corporate hierarchy[23]. The control systems of both companies were organised around traditional diagnostic and boundary systems which consisted of the regular reporting of mainly financial measures.

The division managers of the case-organisations participated in several corporate and environmental social systems from which they carried different structural properties into their organisation, some of which contradicted with the organisation's existing structural properties. The agents link the different structures, which thus create a network of relationships between the different social systems and their subsystems. The interaction makes a manager into an agent. He has a free choice between the social systems and to be an agent he has to exercise power in his relationships with the different systems and to rationalise his actions (Giddens 1984, 6).

4.2 The process of structuration

Structuration theory makes it possible to break down the interplay between action and structure into analytical elements. Actors use modalities

[22] On the characters of the national cultures see Ahrens 1999, 2002

[23] Dent (1991) describes a similar process of transition when traditional engineering principles were substituted for business principles in the systems of accountability in a state-owned railway company.

(interpretative schemes, facilities, norms) in interaction (communication, power, sanction), while they are also the medium of reproducing the structures (signification, domination, legitimation). Giddens (1984, 28) points out that these elements are separable only analytically. The analysis of the structuration of a new strategy in two divisions separates the elements but empirically interaction entails always simultaneously communication, power and sanction as structure simultaneously entails the elements of signification domination and legitimation. Figure 31 portrays the roles of SMA in terms of the duality of structure.

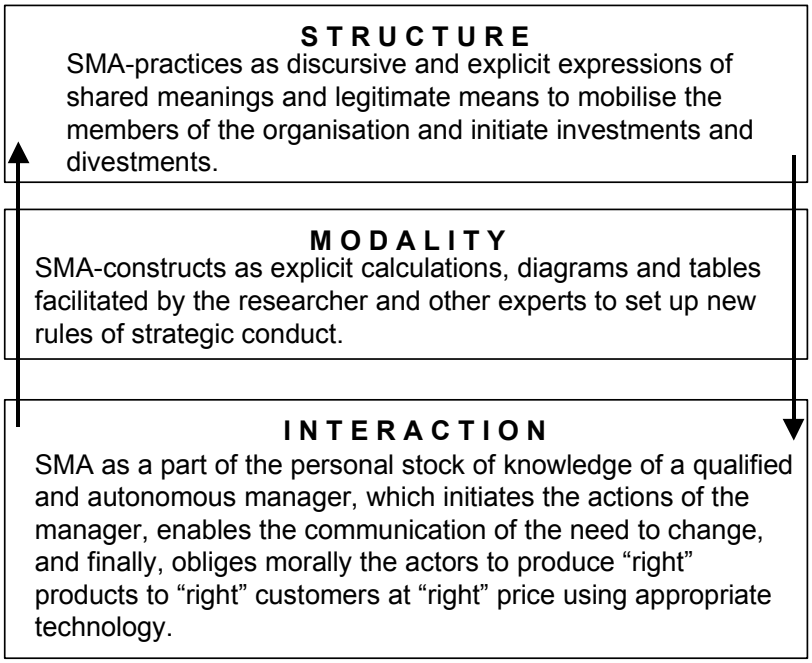


Figure 31 SMA in the structuration of a new strategy

This subsection analyses the roles of SMA in interaction, modality and structure successively. The analysis mobilises an application of structuration theory, the institutional framework of Burns & Scapens (2000; see also Barley & Tolbert 1997), to complete the theoretically rather static nature of the Giddens’s concept of the duality of structure with processual aspects of management accounting change.

4.2.1 SMA practices as professional knowledge

Managerial agency in introducing new structural properties into an organisation is not voluntaristic. Managers must be professionally qualified and have cognitive access to new rules. The SMA practices presented in this study are promoted by educational institutions and professional bodies. Some academics are also innovating and developing further management accounting for strategic purposes but most of the authors of management books and teachers on executive and MBA programmes make only casual comments on SMA. On the contrary, individual practices such as BSC, ABC, TC, CFA etc. are permanently on the agenda. Also consulting in this area is extensive. The plethora of operative management doctrines such as TQM, TBM, LEAN, KAIZEN have called for comprehensive measuring systems, without explicitly promoting strategic aspects. The practices mentioned here are well-known and well-diffused (see e.g. Green & Aminkhienan 1992; Innes & Mitchell 1995; Laitinen 1995; Lukka & Granlund 1996; Malmi 1997a, 2001). These practices are part of the professional knowledge and, to a growing extent, part of managerial practice. Because of their close linkages to general management doctrines, these practices are not the property of any specific profession, which is also evident in the cases in this study. Both division managers, an economist and an engineer, were acquainted with these practices and saw their implementation fully legitimate from a professional point of view. The more elaborated techniques such as PIMS, SOM and SMS, though, require special expertise.

Agency refers not to the intentions people have in doing things but to their capability of doing those things in the first place (Giddens 1984, 9). SMA practices were part of the managers stocks of knowledge and, as such, enabling part of agency but not yet interactive. The implementation of SMA practices was not only defined by the personal competence of the managers and favourable organisational setting but also by their personal power, i.e. capability to make a difference. There must be authority and material means to realise the good intentions (allocative and authoritative resources, see Giddens 1984, 258).

The apparent elements of enabling managerial power in Giddensian sense are summarised below.

Strong cognitive ability

Theoretical knowledge is important as well as the working experience. Crucial in strategy formation and promoting SMA is learning orientation which prefers challenges and development of novel approaches (see e.g. Coad 1996, 391).

Authority vested in office

Formal authority ascertains the access to human and non-human resources linked to this office and also implies capacity to achieve desired outcomes on the manager's responsibility area.

Ability to mobilise other actors

The manager created, through project groups and teams, an inter-organisational network of actors. The network outside the organisational limits was also impressive. The significant part of this network consisted of academics and senior business leaders.

4.2.2 Socio-technical SMA solutions to the managerial problems

The aim to analyse the social consequences of managerial actions during and after the construction process presupposes a processual view on Giddens's rather static and abstract notion of modalities as interpretative schemes, facility and norm. After all, the construction phase is dynamic by nature, and the constructs are observable. The technical element in constructs, based on explicit methods to produce information, was the core of the empirical work, but the main interest of the thesis is in the observable socio-technical elements of the SMA constructs (see Lukka 2000, 115).

The core of the innovations in the DCPD case was a combination of partly tacit and partly explicit knowledge of products and markets with SBA concept and ABC accounting method which were introduced by the manager and explicated by the researcher and consultants. Similarly, the business intelligence system combined the organisation's explicit system framework, tacit knowledge about competitors and academic knowledge about business intelligence and CFA. In the KCIPS case the explicit professional BSC framework was combined with the tacit knowledge of critical success factors into a performance measurement system. In DCPD the BSC never proceeded from an idea to the interactive development phase, even though the similar processes were active in several settings (BSC of PROPPU team for implementation of new technology, business unit level see Kasurinen 1999, 2002a). The knowledge creation, mixing the elements of tacit and explicit knowledge, took place in both cases in similar interactive settings such as strategy meetings of key actors in remote places and strategic working groups (e.g. SET).

At the first phase the managers' vague and unclarified ideas of ends (customer-oriented growth) and means to an end (SMA constructs among other things) had turned from general propagation (communication), engaging/hiring a researcher and other experts (allocative power), and moral stand that the past "wrong" conduct must be replaced with "right" one

(sanction) to explicit tables, diagrams, figures, allegories, metaphors and stories (interpretative schemes) with the help of existing and new information systems, consultants and other experts (facility). All the interpretative schemes described more or less in detail the customers, products, technologies and long term operative performance level explicitly or implicitly (norm). These modalities may be called scripts which are *"observable recurrent activities and patterns of interaction characteristic of a particular setting"* (Barley & Tolbert 1997). The notion of scripts is far less abstract than Giddens's concept of modality and as such appropriate for the constructive study of SMA practices.

Burns & Scapens (2000) combine synchronic and diachronic elements in the institutionalisation process of MA practices inside the organisation. Both cases in this study may be interpreted in terms of the two types of processes. The introduction of SMA practices and their implementation and continuous usage at certain points of time is a synchronic process which entails the encoding of SMA constructs into rules and routines, and finally their institutionalisation in reproduction through the behaviour of the individual actors. The diachronic process takes place as a continuous interaction between the two phases of the synchronic process and entails the enacting of the rules and routines by a conscious choice of adopting the new practices or/and by reflexive monitoring and application of tacit knowledge. Repeated behaviour leads to conscious or unconscious reproduction of the routines. In both cases in the beginning the managers perceived the implementation of SMA practices as rather a straightforward synchronic process, as introducing the SMA constructs and using them routinely to strengthen the particular strategic thinking. Both managers perceived themselves as qualified and autonomous enough for this process. The facilities and technical solutions appeared to be appropriate but the diachronic process turned out to be problematic, more in DCPD and less in KCIPS. Burns & Scapens (2000, 10) suggest that the conscious change is likely to occur only if actors are able to assemble the resources and rationales necessary to collectively question the existing rules and routines, which is naturally, the prerequisite for the internal institutionalisation in the organisation.

4.2.3 Embedding SMA practices into organisation

Researchers have shown various reasons for adopting and implementing BSC and ABC (Malmi 1997a, 2001) which differ from the normative ideals. Especially, BSC as a strategic management system has a tendency to turn into an operative performance measurement system during the implementation (see

e.g. Malmi 2001, 214; see also Tuomela 2000). One of the central ideas of BSC is its ability to align individual and functional objectives with a company's overall strategy, in other words combine the basic structures of different social systems (Kaplan & Norton 1996, 2001) in such a way that the rules and resources of intellectual, managerial and corporate systems are submitted to the simple logic of increasing shareholders' wealth. The are severe doubts about BSC's ability to show these cause-and-effect relationships (Laitinen 1996; Norreklit 2000; see also Veen-Dirks & Wijn 2002) and this causality also tends to be trivialised by managers (KCIPS division manager interview 30.4.2002; Malmi 2001, 217; see also Puolamäki 1998, Määttä 2000, 111). The reasons behind ABC implementation failures seem to be cultural and often after a successful implementation ABC information is utilised for purely short-term operational purposes (Green & Amiekhnan 1992; Innes & Mitchell 1995; see also Partanen 1997, 34) and thus the strategic potential is forgotten. Existing research suggest that the popularity of ABC can, to a large extent, be explained by other factors than its ability to serve strategic purposes.

In this study the primary interest has been in four types of interaction which are in relation to strategy formulation: 1) Information input: the patterns of data gathering and processing, 2) Information output: the procedures of communicating the information to the personnel, 3) Strategy meetings: face-to-face meetings to search the important emergent strategies, 4) Executive group meetings: meetings which embodied the superior's acceptance of the actions of the division manager. The division managers in both cases felt that there was a need for specific strategic information in order to maintain the legitimacy of their strategy process and strategic direction but slightly disappointed they noticed that the centre was not specially interested. For their superiors the most important things were financial accountability and naturally their own managerial aspirations. (DCPD manager, interview 22 August 2001; KCIPS division manager interviews 29 March 2001 and 30 April 2002.) Anyhow, there were constant efforts to structure new practices through interpretative schemes, facilities and norms in interactive situations: To legitimate the new type of accounting the information was interpreted by its relation to several issues. The most important were, naturally the strategic issues in question but also relevance to daily operations. Investments in facilities such as information technology and information suppliers made it possible to produce and distribute SMA information and, finally, new standards of conduct were introduced. As an example of norms was pricing policies in DCPD after the ABC project.

The previous subsection argued for the appropriateness of the SMA constructs and suggested other reasons than the characteristics of the technical

solutions or qualifications of the key actors for the incomplete implementation of the SMA constructs in DCPD. In KCIPS the original idea of BSC-construct experienced also modifications before its final implementation. The lengthy fieldwork suggests that new accounting practices were implemented only to such extent that they conformed to the culture-bound managerial systems and corporate accountability of historical outcomes yielded by the existing strategy. The implemented practices left the existing managerial control systems intact. The authority of local SBU management even increased (DCPD manager, interview 21 January 2002) and the autonomy and integrity at the business unit level were not threatened (KCIPS division controller, interview 30 April 2002; division manager interview 30 April 2002). This study gives also an example on how insisting socially alien practices can have a disastrous effect on an individual (DCPD manager interview 22 August 2001) and, on the other hand, it reports observations how conformity pays. The following subsection analyses the influences of both the structural principles of the corporate cultures and the managers' behaviour in the structuration process.

4.3 Production and reproduction of social structures

Both case companies showed internal pressures to conformity in spite of the different business logic in their respective divisions. This is understandable, because the scrutinised organisations represented a minor part of the total corporate businesses. The existing business rationale was effectively reproduced in a process which combined reflexive monitoring, structuration and the structural principles, i.e. the corporate institutions. Figure 32 visualises the relationships between these elements (reproduction circuit, see Giddens 1984, 191).

The structural properties of social systems are both a medium and an outcome of the practices they recursively organise. Structuration links the individual actor to structural properties through interaction. The individual actors reflexively monitor their actions which feature social integration (Giddens 1984, 191). The interviewed managers' awareness of the social context in which they moved was growing during the process and they could specify the reasons for their actions (see Giddens 1984, 6). The quotations reveal their strategic conduct drawing upon intellectual systems. Emphasis on customer orientation was legitimised by professional expertise or academic knowledge which, however, led to deepening insecurity. The feeling of personal treadmill (DCPD manager, interview 22 August 2001) and loss of influence reminds destructive ontological insecurity described by Giddens

(1984, 62; angst or dread, see Giddens 1990, 100 and Giddens 1991, 58-59). There was also a strong human need to ontological security, to adapt to routine patterns of behaviour and accept the boarders of cultural wall by promoting the operative SPEED program (DCPD manager interview 21 January 2002) and in the second case by anticipating the reactions of the centre (KCIPS division manager interviews 30 April 2002 and PTP general manager 21 March 2000) during relatively early phases of the strategy process (see Whittington 1993, 43). Understanding the conditions of system reproduction became a part of systems reproduction as such (Giddens 1984, 191).

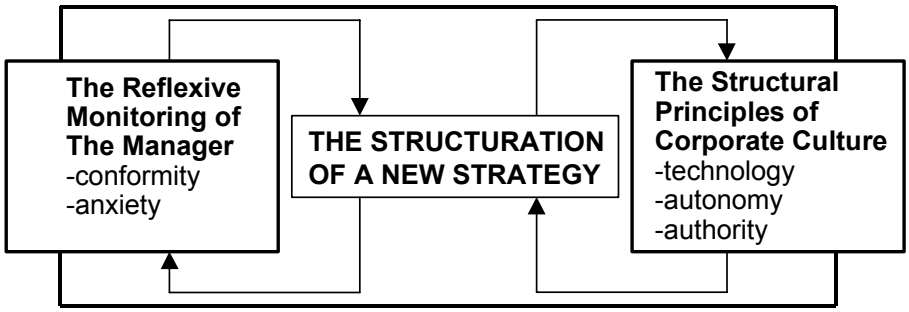


Figure 32 Reproduction circuit of the business rationale

The idea of reproduction easily leads to fatalistic thinking, but interaction always implies the evolution of structural properties which may, but not necessarily, mean the change in institutionalised structural principles. In fact, changes actually reproduced the dominating structures of technology, authority and autonomy. Though the new production technology had the potential to change the rules of the business toward flexible customer orientation, technology development however, emphasised volume thinking. Multi-oriented strategic performance measurement evolved into a production-oriented tool of accountability. But eventually the institutionalised structural principles evolve when the structural properties change and actors change their conduct as well for instance new ways to see the concept of profitability and the importance of personnel. This potential into deeper change was well-understood (OCP business development manager interviews 21 January 2002 and 29 March 2001; see also Lukka & Granlund 2000). An individual manager always has also a possibility to act according to his own values, shape his own norms and rules for action.

The common denominator in both case settings is the new manager in the turnaround situation. Going back to Simons's (1995) study, the managers in the turnaround cluster were especially hired to make a radical change. The superiors often have their own preconceptions and expectations of the

managerial actions (see also Westphal & Fredrickson, 2001). These expectations are very often expressed in terms of financial performance but strive for new niche markets, geographical expansion or product diversification. For the first twelve months of their tenures, managers perceived three urgent demands: overcoming organisational inertia, structuring and communicating performance expectations and gaining organisational allegiance to the new agenda. (Simons 1995, 131-133.) These features were also observable in the case settings of this study. The observations suggest that the aspirations of executive management were just to import new rules and resources into the organisations with discretion to the basic institutionalised structural principles. Overcoming the organisational inertia and the implementation of new structural properties must gradually be acknowledged by the organisational members which, of course, may draw upon the same systemic sources as the key actor. Another option is to fire those members of the organisation who act to reproduce undesired properties. Managers also influenced their superiors to some extent by communicating their plans and seeking legitimacy for their actions (*dialectic of control*, see Giddens 1984, 16).

So far this study has shown the dynamic relationship between the interaction and structural properties of organisations. It has also identified corporate culture and the manager's transformative capacity as key factors in the development of SMA practices from intellectual ideas to constructs which are part of the structural properties in organisations. One can easily draw the conclusion that culture is a structural constraint of managerial agency in the development process and that managerial power is the sole driver of change. At this point it must be emphasised that these factors are *modifiers* in the structuration process. The manager's transformative capacity can be a constraint in many ways. Similarly, the culture can encourage and enable the organisations' development through individual action.

Culture refers to a socially constructed pattern of shared assumptions. In organisations variations in subgroups are substantial, but if certain assumptions are shared across the units, then we can say that an organisational culture exists, even though a number of simultaneous subcultures would exist in the same organisational totality. Culture refers to integrative structural principles. (Schein 1992; Kotter & Heskett 1992.) Corporate culture can be adaptive (i.e. open to new rules and resources) or unadaptive. The adaptive cultures' core values emphasise interest groups, customers, employees and stockholders. They also value leadership up and down the management hierarchy to create useful change. In the unadaptive cultures most managers care mainly about themselves or their immediate responsibility area. The managers value orderly and risk-reducing management more than leadership

initiatives. (Kotter & Heskett 1992.) Adaptive cultures have flexible and empowering structures which promote participation and learning.

The following list summarises the constraining cultural elements referred by the interviewees in the case contexts.

Reliance on strong technology-based market position

The strong competitive position can also have undesired consequences. In this type of heavy industry it leads to volume thinking. Technology is overappreciated and it leads to self-interest in work groups using specific technology.

Obsessive tight financial control

Tight financial control does not necessarily mean results orientation. It may allow years of financial under-performance and lead to budget constrained thinking. From a strategic point of view it leads to risk aversion and reluctance to realise truly creative ideas. The focus is on financial accountability instead of empowerment. In systems the form is over the substance.

Centralised decision-making

Paradoxically the decentralisation has led to lack of empowerment. The actions of business unit managers are constrained by the centre and the business unit structure has increased the centres possibility to control the short term actions with bureaucratic means. Bureaucracy is a consequence of centralised decision-making. Communication may be minimal, which leads to management by numbers and management by budget instructions.

The main issue in the empirical part of the study appeared to be how managerial efforts were intervened by the cultural factors and how the institutionalisation of ideas based on strategic management accounting information was modified by the actual transformative capacity, i.e. power of the manager. This is an ongoing process of interaction, which became flagrantly observable during the strategy process, mainly due to the evolutionary tensions. The division managers perceived the specific cultural properties which emphasised the technology orientation, as the main factors influencing the implementation of SMA practices. Culture can be interpreted through analytical signification, domination and legitimation structures which as social elements give insights into the implementation process, i.e. into the structuration of new practices. It must also be noticed that the adoption of SMA practices even without subsequent implementation can alter the organisational praxis. Long-term observation of members in the organisations confirmed the central role of the individual managers' transformative capacity, their ability to change or maintain the existing practices in the organisation. We can draw parallels between the concepts of production / reproduction of social structures, the concepts of change / stability of management accounting, and finally at the individual level the concepts of leadership / management.

In DCPD the hierarchical organisation structure in financial reporting was the main mediator in sharing understanding of organisational entities, although it was based only on the business area management's interpretations of the business operations. The role of DCPD was vague from the beginning because it lacked significance. This also hindered the communication with the SBUs which had difficulties in accepting reporting to an entity which did not even exist in the formal financial chart of the organisation. The DCPD management also challenged the functional structure with the customer-oriented SBA structure. The communication in executive group meetings used SBA concepts. SMA gave SBAs their properties, but the new business concepts were trivialised because they were to alter the substance of accountability. Neither did they reproduce the cultural values of technology and formal authority. Threats to these values were sanctioned. The DCPD manager was constrained by the prevailing values which limited the available actions considerably (see Giddens 1984, 177). The lack of legitimation inhibited the strategy formulation process. The structure showed rigid power asymmetries. The SMA practices which were institutionalised and in actual use in the SBUs and in division mediated the domination structure. The use of business intelligence system was strictly controlled by the business area HQ. The implementation of the performance measurement system was successful when it was part of the domination system. On the other hand these systems were flexible and were not perceived to constrain the independence of the SBUs. The command over strategic resources was limited by a formal investment policy and also the authoritative resources were effectively reduced to the divisional staff. The power to change existed but the media through which the power is exercised was missing.

SPEED project in OCP reproduced the prevailing cultural properties. The implementation used more the language of technology and production and less the language of strategy. The emphasis of the accounting measures was on short-term financial accounting. Anyway, the process introduced a wide set of non-financial measures chosen by every individual business unit, enabled internal learning and increased the capabilities of the organisation's members. Thus this project altered the rules and practices in the organisation but left the cultural properties intact. This study shows parallel conclusions with Partanen's (1997) study. The second project had better cultural fit and the implementation was in line with their existing ways of doing things (see Partanen 1997; Abdul-Khalid and Scapens 2000; see also Tuomela 2000).

In the KCIPS case there was a strong preconception of corporate culture among the key actors. The division manager had to find the balance between the growth goal of the company and the compatibility with the existing business. The problem was the legitimation of the new business concept. In

the corporate headquarters the business concept was legitimated by growth and sufficient operating profit and in the business units it was legitimated by shared vision of the strategy, which was gained through personal interaction during the strategy process.

The study describes the frustrating effects of cultural collision at the individual level. Interestingly, in Simons's (1995, 149-151) study two of four managers in a strategic turnaround situation left their posts during the second twelve months of their tenure. Simons argues that the actions of these two newly appointed managers were not failures, but gives no explanations for their behaviour. In financial terms the manager of DCPD did not fail, on the contrary, but the interviews reveal a perception of inadequacy. In this kind of case when an active manager leaves the company, it is a loss for the organisation and sometimes even for the manager himself. The events follow a typical pattern. The control system explicates the new values; the defenders of old values start to resist; even the good financial results do not legitimate the change; finally the process ends with an implementation failure or with a successful compromise which opens the doors to new values. Tuomela (2000, 131) describes a development project of a performance measurement system which introduced customer orientation to the organisation, but after a while the performance measurement system did not recognise customer perspective at all. However, the original idea was partly rescued by the intervention of the researcher.

It is justifiable to ask whether the managers have surrendered to the ontological security of the existing culture, but on the other hand, there are permanent finger marks of the division managers in the structural properties. The introduction of continuous customer-oriented strategy work (OCP business intelligence manager, interview 8 November 2001), the implementation of the global SBA-concept, introduction of comprehensive performance measurement (OCP development manager, interview 21 January 2002), consciousness of the importance of personnel and customers (KCIPS division manager, interview 30 April 2002) have evolved into structural properties which in their turn are the medium of the practices they organise. The information production of the new SMA practices, carry on the structuration which eventually changes the institutionalised structural principles.

The reflexivity of the agents is carried out at two levels of consciousness, discursive and practical. At the discursive level agents rationalise what they do in social settings. They use their linguistic skills to speak, write, and reflect about the rules and resources involved in social interaction. Agents also reflexively monitor their own and others' social behaviour at the practical level of consciousness which consists of all the things which actors know

tacitly about how to manage in the context of social life without being able to give them direct discursive expression. (Giddens 1984, xxiii; Macintosh and Scapens 1990, 458.)

The primary need for ontological security remains the foundation of the unconscious. Ontological security is a key building block in Giddens's construction of the agent. Consistency, continuity, and the sameness of experience provide a rudimentary sense of ego identity already at the infant's pre-linguistic stage. The division between discursive and practical consciousness can be altered by many aspects of the agent's socialisation and learning experiences. Between discursive and practical consciousness there is no bar; there is only the difference between what can be said and what is characteristically simply done. However, there are barriers centred principally upon repression between discursive consciousness and the unconscious. Situations that are predictable, stable over time, and ordered in space are important means of copying with unconscious anxiety. Thus the unconscious motivation for ontological security becomes a key element in structuration. It explains to a large extent why agents routinely reproduce social terms, even those they might readily recognise as excessively coercive. (Giddens 1984, 7; Macintosh and Scapens 1990, 459.) Thus the routinisation of the new practices is essential for their full implementation, but the implementation may stray off the planned course and lead to something quite different from the original idea.

In the case organisations the SMA practices were active at both of the managers' levels of consciousness. The managers communicated and reflected the new rules. The rationalisation of their actions was important. The SMA information was one of the most essential sources of rationalisation and the individual constructs, portfolio, BSC, ABC and CFA were listed as strategic themes or issues (see e.g. appendix 5). One can even argue that the strategic control system was the main objective of the strategy process in KCIPS and the rationalisation of the strategy process was simultaneously rationalisation of the construction process of the strategic performance measurement.

The practical level of consciousness is difficult to analyse and communicate due to its non-discursive nature. It is a counterpart of the culture in collectivities. Most part of the practical consciousness is tacit and it manifests itself in intuitive acts, skills and in the way that the individual describes the world. Personal values, beliefs and attitudes are lodged at the practical level of consciousness. Most of the actors are well aware of their values, but these values are very seldom expressed in words, even in value conflict situations. When individuals share the same values these values become the core of the collective culture. It is important for the reader to separate the official values in the annual report (Outokumpu annual report since 2000; KCI Konecranes

annual report since 2000) which are communicated to company stakeholders and represent the ideal values in the eyes of corporate executives, from the non-discursive values which truly guide the practical actions of the individual in the organisation. Outokumpu (annual report 2000) emphasises customer orientation, technological expertise, efficient business processes, environment and personnel, in this order. The respective values in KCI Konecranes (annual report 2000) are trust in people, total service commitment, and sustained profitability.

Technology, as core value in both companies, operates both at the discursive and practical levels of consciousness, but the interviews suggest that technology is generally prioritised far more than other official values and its importance reaches far to the non-discursive area from the discursive level of the annual reports, which rationalises the executives technological focus with an interest to secure the future return on capital (see e.g. DCPD manager 22 August 2001, 17 December 2001; OCP business intelligence manager 8 November 2001; KCIPS division manager 30 April 2002; KCIPS PTP manager 21 March 2000).

One of the central values of the practical consciousness is the formal authority. Generally the power distance index in Finland ranks low among other nations (Hofstede 1991, 26) but the case companies represent old industries where employees often see their bosses as autocratic and paternalistic (see e.g. central decision-making OCP business intelligence manager 4 October 2001). The formal authority and the functioning of the organisation are the values which are manifested more often than the personnel development in a sense that the needs of an organisation are prioritised over those of the individual (physical distress, DCPD manager 22 August 2001; need of empowerment PTP Oy general manager 7 June 1999).

The profit centre organisation had strengthened the independence and autonomy of business units in both corporations. In OCP it had escalated into uncontrolled strategic competition (DCPD manager interview 17 December 2001). Of course, this was an extreme event but describes the situation. Autonomy had become a value as such, which business unit managers observed when they established the strategic ends of their business units. In this sense, the hardships in technology transfer and sharing of the tacit information in DCPD become understandable.

An organisation's relationships with other cross-cutting systems introduce external rules and resources into the organisation. Whittington (1992, 704) argues that managerial agency stems from the exploitation of the tensions between divergent structural systems. The tensions are either a result of internal ambiguity and plurality of rules or a result of contradictions between systems structural properties and alien rules and resources imported by actors.

4.4 Managers in the intersection of the institutions

Whittington (1992) draws on intitutionalists' studies and argues that the advocates of managerial agency have relied on Giddens's notion of structuration, yet neglected his commitment to multidimensional social systems; the institutionalists have politely acknowledged this commitment but then lapsed towards determinism. Whittington proposed a framework that attempts to reconcile structurationist perspectives on managerial agency with the emphasis on diverse social influences.

Whittington (1992) builds a structurationist account of managerial agency that is founded on the contradictions within and between different social systems such as communal, economic, domestic, political and intellectual. He concludes in harmony with institutionalists that local legitimacy may be as important as economic efficiency. In this account, managers may set their strategies not merely according to the calculations of capitalist economics, but also by estimates of different sources of social support (Whittington 1992, 708).

This thesis applies Whittington's perspective on Giddens's notion of agency, but when Whittington emphasises institutionalists' perspective on social systems, this thesis sets the empirically important local, inter-corporate, systems side by side with the social systems of the society.

Figure 33 portrays the empirically important social systems and the following discussion analyses the structural properties, rules and resources of those systems in detail.

Institutionalists have identified a multitude of social influences that constitute our society (see e.g. Dacin et al. 2002). The institutionalists have mainly been concerned about the impacts of the social environment upon organisations (Whittington 1992) but during recent years there has been an increasing interest in cultural elements such as values, norms, rules, beliefs, and taken-for-granted assumptions inside organisations (Barley & Tolbert 1997). Institutions are imposing social coherence upon human action, but simultaneously they evolve through that action (Giddens 1984). Thus the human actor in an organisational setting is in the cross-fire of structural influences, both external and internal. The actor has more or less free choice of structural properties available. Sometimes these structures are adjoining but sometimes they are contradicting. Giddens (1984, 198) calls this contradiction a *disjunction of structural principles* which can escalate into a conflict, a *struggle between actors or collectivities expressed as definite social practices*.

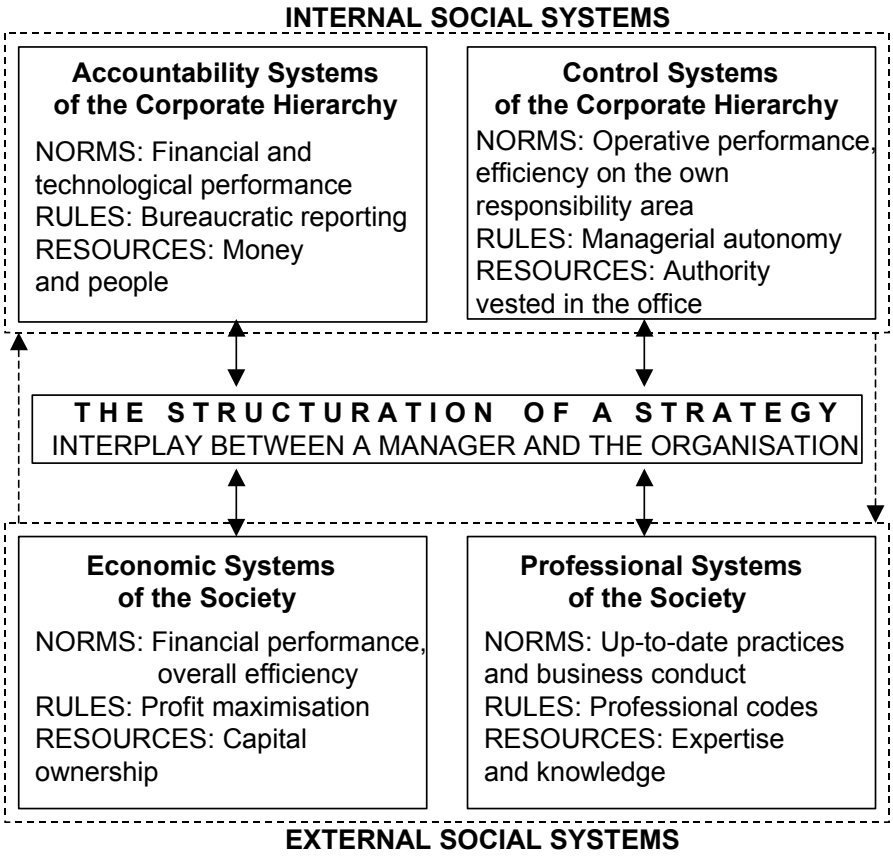


Figure 33 Relationships between institutionalised social systems

The empirical material points out the importance of the already mentioned systemic changes in the organisational environment. The change in ownership has made it important to show legitimate managerial conduct. The shareholders expect strategic planning (Whittington 1993, 31) in spite of the prevailing criticism (Mintzberg 1994). Researchers have presented arguments that finance professionals have promoted multi-divisionalisation and profit centre organisations, not because of profit maximisation but because of the increasing demand for their special accounting skills (see Whittington 1993; see also Johnson & Kaplan 1987). This financial control is superseding the previous engineering control of mass production. The accountability structures are also expected to evolve while the strategies are developed. The paradigm is that the structures must follow strategy (Chandler 1962).

The increasing influence of finance professionals and expectations to adopt new structures in response to growth create institutional pressures to implement new management accounting techniques. The institutional legitimation of new practices is easy, but the problem seems to be the local

legitimation. The experiences in the case companies confirm the systemic claim that strategies are influenced by the interests of dominant groups rather than strategic management accounting information (OCP business intelligence manager, interview 4.10.2001; KCIPS division manager, interview 30.4.2002; see Jones 1985; Whittington 1993, 50). The contest of principles of conduct is a complex process and winning the allegiance of dominating groups can take time although the external pressures are hard. The change takes a form of distinct phases and managers need to ponder when choosing the moments for their actions (key-events in change process, see Dent 1991).

The growing absence of direct ownership control has left room for a surplus of managerial control techniques. The profit-maximising rule has changed into autonomic choice of management logic (Whittington 1992, references see 1993, 50-55), but still the prime legitimate managerial resource is the formal authority of the manager (see Mintzberg 1994, 200; classical approach to control, see e.g. Ezzamel & Hart 1987, 87). The basic structure of a bureaucratic conglomerate is accountability which is visualised with an organisation chart (see e.g. Simons 2000). The strong financial accountability has replaced the former functional, mainly technical, accountability[24]. The central resources of accountability are financial and human. The managers are accountable for the utilisation of the financial and human resources in their responsibility areas. The contest of accountability around financial and technological performance is a feature of everyday management (see also Ahrens and Chapman 2002). If the manager meets the standards which the superiors have set, the value conflict does not surface but if the technological performance is achieved at the expense of profitability, the financial norms tend to weigh more. The DCPD case illustrates, though, that the financial underperformance is tolerated if it is legitimated by technological advancement. The analysis of the options at the manager's practical level of consciousness is only possible by observing the manager's daily decision-making.

The observations and interviews confirm the deep social embeddedness of technological and financial accountability. The business area headquarters had a central interest in the development of new technology in DCPD which even bypassed the interest in financial accountability (DCPD manager, interview 22 August 2001). The technology orientation is still visible in annual report 2000 (page 2) even though customer orientation surfaced in the annual report the following year. KCI Konecranes also emphasises the core technology of the company in its mission (annual report 2000, 2) and the technological core also

[24] Influence of dominating function see Miles & Snow 1978; increasing influence of finance professionals see Whittington 1993; national character see Ahrens 1999, 2002

defines the new business concept (KCIPS division manager, interview 30 April 2002). Financial accountability had grown almost to an equal position with technological accountability in OCP. This trend is closely linked with the privatisation, with the introduction of the profit centre organisation and finally with the organisational and financial crises in OCP (see also Dent 1991). In KCI Konecranes financial accountability has always been important due to the personified ownership in the history but the profit centre organisation has also introduced financial accountability to the shopfloor. The process of accountability follows the strict rules of bureaucratic reporting by the established accounting standards and the dominating ideas of technological advancement. The norms are precise performance levels and failure to meet these measures is sanctioned by dismissal or displacement. Bypassing the DCPD manager in the planning process of the new mill was a typical consequence of divergence from the norms of the OCP management.

Profitability and efficiency are mentioned in the annual reports of the case corporations. Access to capital is the main resource which enables the survival of the company. The capital providers want a sufficient return on their capital input at a given rate of risk. Stakeholders have become more aware of the dangers in short-term financial measures, especially in ROI-measure. This has made companies, in general and also the case companies, to emphasise sustainable or long-term profitability (Outokumpu annual report 2001, 3; KCI Konecranes annual report 2001, 2). In Outokumpu the key financial objective is to generate as much added value as possible on the capital invested (Outokumpu annual report 2001, 15). Another side of the wealth maximisation is its link to the internal financial accountability which has penetrated the companies, even to areas where it has lost its rationality like in case of cost and profit centres in DCPD, in which the managers were unable to influence their costs and incomes.

The importance of managerial control intertwines with the development of managerialism and the profit centre organisation. The shift in top management from influential owner-managers to professional managers with simultaneous dispersion of ownership is well documented (for references see Whittington 1993, 50). Internal political processes lead to the domination of a particular functional group, in these cases engineers, in top management (see Miles and Snow 1978), which makes a difference in the strategy and the overall management of the company. The gradual privatisation of a traditional state-owned Outokumpu metal company introduced the managerial logic which is replacing the engineering logic and socially aware state politics (see also Dent 1991). On the other hand the dilution of personified ownership in the divested KCI crane company replaced the relatively simple capitalist logic with the managerial control. The decentralised profit-centre organisation increased the

managerial influence and autonomy. Autonomic choice of management logic (Whittington 1992, references see 1993, 50-55) dominates the business units and central functions.

The prime legitimate managerial resource is the formal authority of the manager (see Mintzberg 1994, 200; classical approach to control, see e.g. Ezzamel & Hart 1987, 87). In the development process of the profit centre organisation the management accounting systems had an essential role in constituting the corporate organisation and accountability. The central rule in managerial control is the managerial autonomy. Management accounting systems which enforce the organisational structure, define the borders of responsibility areas. The emphasis on maintaining the status of independent business units in KCIPS and the importance of quasi-SBU structure in DCPD expresses the central rule of autonomy. The operative performance and efficiency in the manager's own responsibility area are the central norms of judgement.

Corporate accountability and management control systems are clearly parts of the total corporate rationale in the case companies. Both systems also enforce the stable domination structures and they legitimate the daily managerial actions. The case findings indicate that as an overarching concept SMA is purely intellectual and not by any means a part of managerial praxis (Lord 1996; Dixon 1998; Guilding et al. 2000; Roslender & Hart 2000, 2003), its structures are academic and they are promoted by professional bodies (see Roslender 1995; Kasurinen 1998) and it is legitimated with arguments far from daily concerns of middle management. Arguments such as …*gaining sustainable competitive advantage*... (Shank & Govindarajan 1989), …*monitoring of the enterprise's strategies and those of its competitors*… (Bromwich 1990), …*develop superior strategies*… (Wilson 1995) are legitimate in managerial sense only when there is something profoundly wrong with the existing strategy threatening the manager's immediate responsibility area. On the other hand, when there is something profoundly wrong one does not necessarily need elaborate tools to analyse the situation. The disjunction between corporate accountability structures and SMA are, if possible, even more obvious. SMA implies future orientation which is alien to short-term corporate accountability. It is impossible to define the output of visions and standards of strategy substance. The lag between the strategic input and financial outcome seldom fit the short-term accountability systems. The existing research (Lord 1996; Dixon 1998; Guilding et al. 2000; Roslender & Hart 2000, 2003) and the empirical findings of this study confirm the present contradiction between managerial control structures, corporate accountability structures and the intellectual academic structures of SMA.

The managers interact on a daily basis with the capitalist economic system which pursues the central rule of profit maximisation. The division manager interacts with customers and suppliers whose central interest is the value-added the division can give to them. An example of the customers' view on the business relationship is the OEE measure in the KCIPS case. The shareholders and financiers are far from the division managers in the case companies, but the corporate executives deploy the central rule. Precise profit targets which are a part of the corporate accountability systems, express the rule in detail. The basic norms are financial performance and efficiency.

The interesting group of social systems in the case-settings is the professional systems due to their close link to the managerial agency. The professional codes rule the managerial conduct which basically draws upon the resources of the personal expertise and knowledge. In both cases the managers' relationships with academic community and professional bodies were extensive and also the consultants were involved. The managers also influenced the professional structures with presentations in several practitioners' seminars and with discussions in academic circles. The managers drew the novel ideas they imported to their organisational domain in respective divisions from the professional systems which draw their rules from the academics' intellectual perceptions of up-to-date business conduct. Both managers had also experienced the adoption of SMA practices in their former organisations. The management accounting practices exhibit convergent tendencies (see Granlund and Lukka 1998b) which create global norms of managerial conduct. Practices such as ABC, BSC and CFA etc. are becoming more and more standard norms of professional conduct. The academic community, professional bodies and management education promote these practices as drivers of strategic change. The institutional environment also expects certain types of conduct in management. The executive management has to show modern management practices such as implementing Balanced Scorecard or modern BAAN ERP-system as well as concerns for customers, personnel, nature, social responsibility etc. Malmi (2001) has even argued that the imitative behaviour explains the increasing popularity of BSC best (ABC adoption because of fashion, see Malmi 1997a, 24; mimetic processes, see Granlund and Lukka 1998b, 167-168).

The managers act more or less in all of these four social systems and face parallel and contradicting rules of conduct. The internal and external social systems are reflecting each other. Technically the types of observable practices such as portfolios, ABC, BSC, and CFA are to a large extent similar, but they engender different communication and action in different organisational and social settings (see also Ahrens and Chapman 2002, 169), depending on the active system. The accountability systems reflect the

external economic systems and the managerial control systems reflect the external professional systems and, naturally, vice versa. However, as the cases illustrate the values and the norms may be different. The routinisation of the new practices during the implementation process draws rather upon the organisation's internal norms than the external norms. The internal and external values may overlap, but they may also be fundamentally different, which may explain the seemingly illogical consequences and outcomes of development processes (Malmi 1994; Puolamäki 1998; Kasurinen 1999, 2002a, 2002b; Tuomela 2000). Generally, the external expectations and the perception of best practices and efficiency exceed the typical internal standards and norms in most companies. The ideal norms are divergent from the norms of practical consciousness. Sometimes the ideals are devalued to managerial fads at the discursive level in organisations.

The cultural fit (see also Partanen 1997) of the implemented constructs implies convergent values in the performance measurement, managerial control, and corporate accountability systems, which may explain the relative easiness in the routinisation of the non-financial performance measures of the new technology and in the routinisation of the operative performance measurement system in the SPEED-project. In the KCIPS case the successful implementation suggests that the basically technocratic substance of the division's BSC was convergent with the financial and technological accountability systems in the company. All the systems in use also strengthen the autonomy of the implementing organisation (full credit for achievements, DCPD manager 21 January 2002; autonomy in further BSC implementation KCIPS controller 30 April 2002; issues first - then measures KCIPS division manager 30 April 2002). The introduction of these systems did not introduce new rules and uncertainty about the future social conduct. The risk for insecurity was minimised.

4.5 The social framework of SMA practices

Chapter 4 described the structuration of new strategies in two case organisations as an interplay of the tacit and explicit elements of the actors and structures emphasising the agency of individual division managers. The managers exploited the tensions between the divergent structural properties of the respective organisations and introduced new ideas of strategic conduct. In DCPD the new strategy was perceived as vague and alien, in KCIPS the new division strategy was an existing praxis in some of the units which formed a favourable basis for the socialisation of the new strategy. The managerial agency did not stem only from the internal tensions but also from the

contradictions between the external and internal social systems. The managers brought their ideas from professional systems which promote up-to-date managerial conduct and practices such as ABC, BSC and CFA. These practices are legitimate as well in the economic system which emphasises the wealth maximisation. The aim of the division managers in the context of the strategy process was to implement SMA practices in order to strengthen the new strategy and turn it into a guide of future actions. Figure 34 illustrates the outcomes in the organisations after the construction processes.

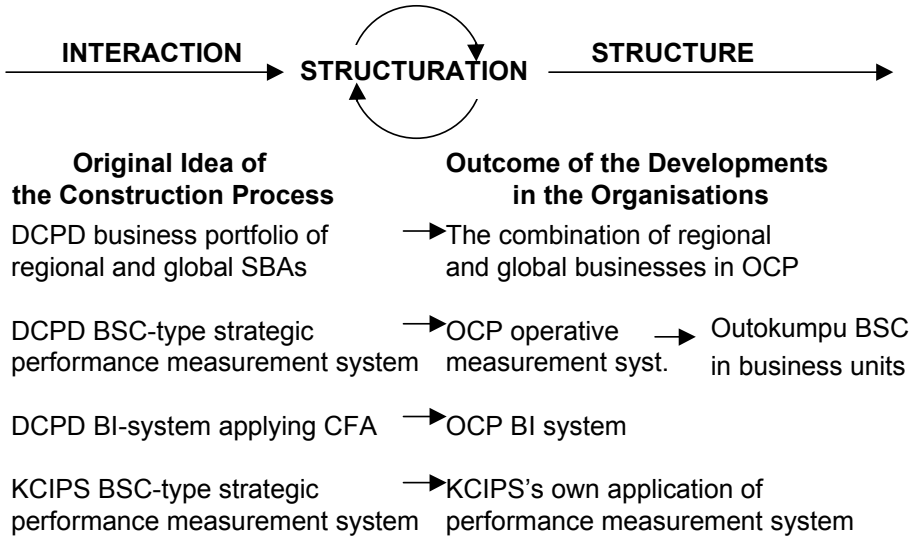


Figure 34 The evolution of SMA constructs into organisational practices

Both case organisations developed performance measurement systems which employed both financial and non-financial measures. In the KCIPS case the development process was profoundly linked with the strategy process. The customer and personnel perspectives of the framework are strategic emphasising the long-term needs of the customers in the core business and emphasising the skills of employees compatible with these needs. In the DCPD case the introduction of the market-oriented SBA structure, although short-lived in DCPD, had an impact on the business area in the conception of the nature of the copper business as a combination of regional and global businesses.

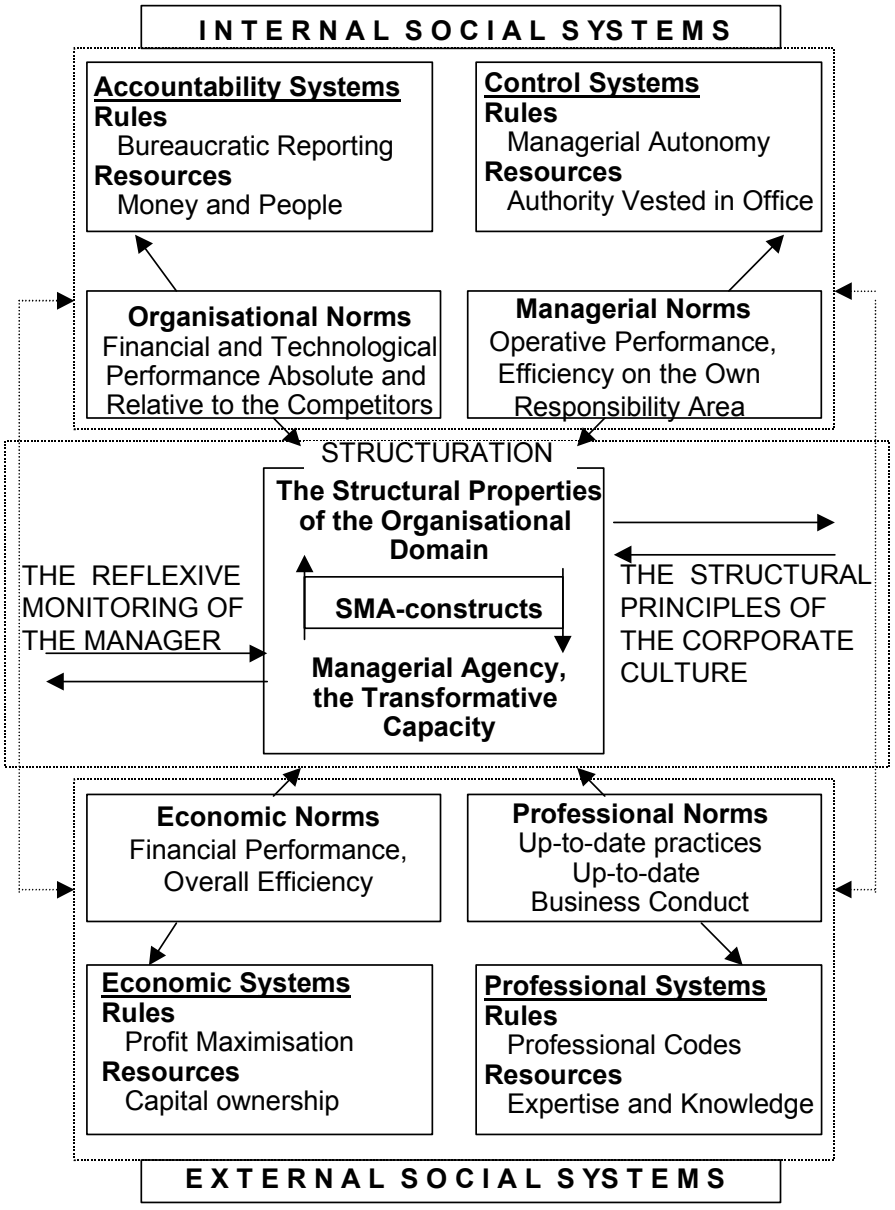


Figure 35 The social dimensions of SMA constructs

Figure 35 summarises the main elements of chapter 4 and illustrates the framework of the relationships between the different social systems and managerial behaviour which was reflexive both on the explicit discursive level and on the tacit practical level. The cases illustrate the need for ontological security as the managers adopted the corporate rationale and also the consequences of missing ontological security as frustration of the DCPD manager.

In the first phase SMA appeared to be, not a clear concept, but a vague idea of a set of management accounting practices which had a strategic purpose. The academic world, professional bodies and consultants promoted some of these practices as a legitimate means to strategic ends. The managers had fully adopted the professional ideas, and SMA practices were part of their stocks of knowledge. In the next phase SMA practices turned into explicit forms of information, calculations, figures, diagrams etc. which mediated the strategic ideas of the division managers. In both cases the managers had no clear preconcept of the of the new strategy but it was created in interaction. Thus the implementation of the SMA practices was linked to the structuration of the strategy. This chapter also analysed the outcomes of the construction processes, a failure and a success of a strategic change. The outcome of the construction process of SMA practices was conditioned by the organisational cultures. The next concluding chapter discusses the main issues of the analysis and their implications following the order of the aims of this study.

5 CONCLUSIONS

5.1 The results of the study

This concluding chapter begins with referring the substance of the thesis to the background issues in the introductory chapter and proceeds with a subsequent evaluation of results in respect of the aims of the study.

During the past decades the world has changed at an accelerating pace. Companies must respond rapidly to competitive and market changes, benchmark to achieve best practice and nurture few core competencies to stay ahead rivals. In the race of survival the formal and scheduled planning has become too static and slow (Mintzberg 1995; Porter 1996) and strategic thinking has been under fire for the last two decades, which has swept away almost entirely the planners from the corporate headquarters. Managers started to believe in the superiority of the operational effectiveness and implemented programs such as JIT, TQM, KAIZEN and lean manufacturing. The pivotal financial indicator in the western world is return on investment (ROI) measure which has two components: A numerator – net income and a denominator – investment (or assets). To increase ROI the numerator must increase or the denominator must decrease. To increase revenues is a hard job which presupposes knowledge about markets, customers and competitors. Under pressure to quick ROI improvement the managers reach for denominator reduction. They "strengthen" the company with downsizing, divesting and workforce reduction, but in effect it may lead to surrender of market share (Hamel & Prahalad 1994.) In mature industries the news releases of workforce reductions have not been rare (see Outokumpu press releases May 27, 1999 and Mar 17, 2003).

The disappointments in operational improvement programs and the devastating effects of denominator management on society have led to the rediscovery of strategic thinking and to the balancing between strategy and operational effectiveness (see Porter 1996), not as a formal once-a-year exercise but as a continuous strategic concern of managers. The rediscovery of strategic thinking has old and new elements. The levers of portfolio management, matrices such as BCG and GE and the general ideas of the positioning school still lived strong during the research period (see Porter 1996), but in a reduced role as means of conducting strategic analysis and enlarging strategic vision. Also strategic planning has an important role in

analysis and programming of a strategy. The third prescriptive strategy school, the design school, has proved its viability in the context of supporting the conception of new strategy. (Mintzberg et al. 1998; Mintzberg 1995.) Both practitioners and researchers are disillusioned with the ability of the traditional prescriptive schools in actual strategy formation. The focus has turned into business innovation expanding current markets and creating new ones. The new types of strategy allegedly create profitable growth, create shareholder value and ultimately generate new jobs and wealth for society (see e.g. Kim & Mauborgne 1999). Knowledge creation has an essential role in the new strategic frameworks. Effective use of the knowledge that already exists in an organisation has now become a core element of business strategy (von Krogh et al. 2000).

The study did not explicitly predefine SMA, but in the beginning it adopted a wide concept which perceives *SMA as provision of explicit and quantitative information for strategic purposes*. The researcher also adopted the broadest strategic control concept available, Simons's four lever framework which covers, in addition to diagnostic control systems, also interactive control systems, beliefs systems and boundary systems. All these systems were in active use in the case organisations during the time span of the research. The prior contingency research provided the researcher with insights into the nature of management accounting and control systems at the different levels of large firms. The notion of strategic management accounting as *the provision of financial and other information, meanings and shared assumptions for the needs of the strategy makers in enterprises' strategic development* fits the current perception of strategy and, especially, the central role of knowledge creation in a strategy process context.

The empirical part of this study consists of two narratives, two stories, of two strategy processes which seek growth and penetration to new potential businesses. The central function of the researcher in this context was to participate in the development process of strategic control systems. The researcher brought into the organisations the concept of SMA as a strategic management toolbox, a set of SMA practices. The concept and the term were short-lived in the empirical setting. The managers and management accountants never used the term SMA on their own initiatives, which indicates SMA's obvious lack of terminological and conceptual clarity. Even the relatively simple SMA form of the researcher's presentations could not help. The managers perceived and adopted SMA techniques as individual management practices among others. A clear problem was the lack of a reference frame. SMA does not have a generally accepted structure. The findings in this study are fully in line with prior research which has revealed

the almost total non-existence of SMA concept in practice (Lord 1996; Dixon 1998; Guilding et al. 2000; Roslender and Hart 2000, 2003).

Some researchers (Dixon 1998; Lord 1996) argue that SMA is a figment of academic imagination and the possible elements of SMA are dispersed among different people in organisations. The concept of SMA may be vague and its elements dispersed but calling it figment of imagination is so far ungrounded. The studies of Guilding et al. (2000) and Roslender & Hart (2000, 2003) report equal findings but they conclude that SMA is an emerging concept and its perceived merit exceeds significantly the actual use. The pure existence of this study is in line with these conclusions.

The first aim of this study was to explore the SMA literature and to conceptualise it into a framework of SMA definitions and practices in respect of two dimensions, the time horizon and the scope of the measures.

The conceptual SMA typologies in literature have drawn on the rather deterministic traditional strategy schools or they have reorganised previous works of SMA authors (e.g. Wilson 1995; Bromwich and Bhimani 1994; Roslender 1995; Lord 1996; Kasurinen 1998). This study is unique in the sense that the typology of the SMA definitions and practices draws on the preconception of information needs during the different modes of strategy work. As the recent strategic thinking balances the past position with future opportunities and financial performance with multiple external and internal drivers of performance, the SMA typology in this thesis reaches for the same balance between history – future and internal – external.

This framework suggests four approaches to SMA definitions and practices. The two dimensions form a four-quadrant typology of strategic management accounting definitions and practices. The four different types of SMA practices emphasise and support different activities during the strategy process: 1) financial analysis of the existing businesses, 2) development of the business portfolio, 3) formulation of a new strategy, and 4) comprehensive monitoring of a business strategy. The framework covers all the management accounting practices which the researcher encountered, and which had linkages to the strategy process, during the fieldwork. Among all SMA practices, the study focuses on four types of them: activity-based costing, portfolio techniques, balanced scorecard and competitor-focused accounting. All of them subsequently became the normative models of the strategic management accounting constructs in the case organisations.

The obvious shortcoming of the study is the limited number of SMA practices under consideration. The listing of practices covered only those which came up during the periods in the case organisations either by the researcher, other academics, consultants or by the organisation members themselves. The literature recognises many other SMA-techniques such as

attribute costing, brand valuation, value chain costing, strategic investment appraisal etc. The reader may ask why these or some other techniques were not considered. The author admits the narrow sample of the practices in the case settings but hopes that in the future we will see a full-scale listing of SMA-techniques categorised as means of serving the ends of the continuous strategy process.

Contingency approaches to research on MCS and strategy often address strategy implementation while case study applications emphasise the process of strategy formulation and change (Langfield – Smith 1997, 210). The contingency research presented some propositions concerning strategy and management control systems. To put the results into the context of this study the contingency research suggests that strategies characterised by conservatism, defender orientation and cost leadership are more associated with formal traditional management control systems focused on cost control, specific operating goals and budgets and rigid budget controls. Concerning product differentiation, competitor focused strategies are associated with broad scope MCS for planning purposes, and customisation strategies are associated with aggregated, integrated and timely MCS for operational decisions. Prospector strategies require informal, open MCS characterised by more subjective long term controls and interactive use of budgets focused on informal communications. (see Chenhall 2003.) The case contexts in this study emphasise move from conservative defender and harvest strategies to more entrepreneurial prospector strategies, which is assumed to lead to a broader scope and more interactive role in management accounting. The contingency research provides us a static picture, but this study associates the use of SMA practices with the strategic change process and, especially, with the different phases of the strategy process: analysis, development, formulation and monitoring, which all are linked with distinctive information needs and SMA practices. The study suggests that SMA research could benefit from research on the impacts of the focal phases of the continuous strategy process on the adoption, and future implementation and usage of SMA practices.

The second aim of the study was to contribute to the development, application and implementation of SMA constructs in the strategy process setting and to relate the researcher's experiences firstly, to the normative literature, and secondly, to the conceptual framework of SMA definitions and practices.

At the beginning of the research project the researcher was optimistic that the managerial problem of strategic control in growing new business is possible to solve *"through the construction of models, diagrams, plans organisations etc."* (a quote from Kasanen. et al. 1993, 245). After the first phase of the study in DCPD (Puolamäki 1998) the researcher was somewhat

disillusioned, because the outcome of the neat normative ideas was unanticipated and rather discouraging. Empirical findings of a research colleague suggested a similar pattern of unanticipated outcome (Tuomela 2000), which couraged the author of this thesis to look for a theoretical framework which covers the social phenomena on the site. During the second case study in KCIPS the researcher was better equipped to understand and design also the socio-technical elements of the SMA constructions. This wider concept of managerial constructions was also in line with Lukka's (2000) later perception of constructive research approach. A possibility to interview the former DCPD manager in 2001 – 2002 facilitated in retrospect a new social perspective on DCPD strategy process in 1995-1997.

This study has common features with a typical action-oriented research approach such as case method, focus on human actor, subjectivity, thorough understanding of the behaviour of people in organisations and teleological explanations (see Pihlanto 1994), but the main difference is that this research aimed at explicit managerial constructions right from the beginning of the research using strong intervention (see Kasanen et al. 1993). The innovation phase is the core element of a successful constructive study (see Kasanen et al. 1993, 247). Drawing on the concepts of knowledge management (Nonaka & Takeuchi 1995) chapter 3 argued for the innovative nature of the constructions in this study. A combination of the researcher's academic and practical knowledge with the knowledge in the organisations created innovative and original solutions to the managerial problems. The joint efforts of the researcher, consultants and organisational members iterated construction designs. In the first case all three constructions were failures from a practical viewpoint, which however, does not discredit the theoretical potential if the researcher can identify reasons for this (see Lukka 2000, 118 footnote). The construction of a strategic performance measurement system in KCIPS passed the weak market test. The division manager willingly applied the new construction. An attentive reader may have noticed that the empirical part of the thesis reports observations of some other ad hoc managerial constructions as well, but the study focused only on those which were developed for implementation and long-term usage. For the reasons listed above, this thesis, in good and in bad, may be evaluated as a constructive research. Altogether, *ex ante* determination of the novelty and future diffusion of the managerial construct is impossible in the constructive research approach. The study contributes a refinement of the innovative construction phase by emphasising the innovative process of implementation and diffusion (research cycle, see Kaplan 1998, 98). Still, the main issue is to find a solution to a business problem. The solution may be a new construct or innovative application of an

existent technique. This study, particularly, emphasises the social relationships, interaction and structures, in the construction process.

Until the year 2002 the KCI Plant Services division and Outokumpu Copper Products adopted non-financial measures in their systematic reporting of business unit performance. The attempts to implement BSC during the DCPD strategy process were wasted both at the business unit level (see Kasurinen 1999, 2002a, 2002b) and at the divisional level (see also Puolamäki 1998). During the following years the company adopted systematic reporting of non-financial operative measures. The corporate management began to dissolve business area structures and imposed balanced scorecards on the business units. The development process in DCPD may seem like an idiosyncratic failure of an idealistic but frustrated division manager and controller. In this sense the Outokumpu case seems to be in line with the original ideas of Kaplan and Norton. Strictly top-down approach and sticking to the internal focus is the only way to impose balanced scorecard. However, the researcher claims that the novel ideas of the division's strategic performance measurement may be rooted in some other context of mature industries, especially, because these ideas address those issues, grasping the emergent strategies and positioning against the competitors which Kaplan and Norton neglect (see also Norreklit 2000).

The performance measurement system in KCI Konecranes, the balanced scorecard of KCIPS division, had previously unreported features and it has so far proved the viability of divisional BSC without any remarkable interventions from business area or corporate management. The implementation process turned out to be a success. The individual measures of both the systems in DCPD and KCIPS are, naturally, unique in their specific context but the idea of combining the strategy process in emerging business and the development of BSC management system is not previously documented.

The case organisations are evidences that the ideas and practices of long – term planning live strong in large organisations, despite the heavy criticism. The portfolio techniques and classical positioning matrices proved to be efficient means to communicate the present and intended future situation of the businesses in a diversified organisation. ABC linked the groups of products and customers to the resources they consumed and thus supported the portfolio planning. Competitor-focused accounting was a part of the business intelligence system which was implemented during the strategy process. However, the main function of the system was the reporting to the business area management, i.e. to serve their planning and decision-making. The strategy processes had incremental outcomes and not a single technique emerged to explicitly support the innovative process of strategy formation.

There is an obvious need of easy-to-use information technology to handle the enormous amounts of data in order to test and develop emergent mental models of potential new businesses. During the years of this research process the applications of artificial intelligence have entered the practice of strategic planning and systems such as self organising maps are emerging.

The inevitable phase of the constructive research project is the reflection of findings to prior theory (Lukka 2000). The SMA constructions of this study are all sub-constructs of more extensive managerial constructs. The thesis focuses on the roles of those SMA constructions which have their ideals in normative literature. The designs of the case studies strengthen the empirical evidence on the adoption and implementation of normative ABC, CFA and BSC theories. The theories should most likely to hold in the strategy process context in the case settings of the study. Any empirical findings against the theory may be strong disconfirming evidence (Keating 1995; see also Lukka 2000).

As a concept, the first construction, the DCPD business portfolio, is old but the combination of ABC to this concept opens new possibilities for strategic analysis. The main theoretical contribution is the realisation of positioning SBAs (processes) in a division context, which is not meaningful if the profitability of different SBAs do not appropriately reflect the resource consumption of each SBA. The main deviation from the original ABC theory (Cooper 1988ab, 1989ab; Cooper & Kaplan 1988) was the full cost emphasis which does not indicate any disconfirmation of the theory but indicates the importance of social context. The reconciliation of the calculations with financial reports was more important for trustworthiness and legitimation of action than some arbitrary allocations.

The second construction, the DCPD business intelligence system, was in active use during the strategy process but reduced to a rather passively used databank after the process. The concept of CFA had a very important potential role in the analysis of the present position of SBAs and in the identification of business opportunities. The theoretical elaborations of CFA (see Porter 1985; Simmonds 1986; Guilding 1999) are exhaustive but neglect the issue of information availability and quality. Disclosure of business information is not very common and the disclosed information is in many case incomparable over different companies on different continents. The creation of new knowledge presupposes the interpretation of a well-informed manager. The theoretical concepts prove useless if the data is not available or if the data at hand is not understood.

The theoretical contribution of the third construction, the DCPD strategic performance measurement system, is limited due to its tentative nature. The proposition was not even seriously discussed. What makes this empty exercise

interesting is the fact that simultaneously two other BSC projects failed in two different parts of the organisation. Especially the knowledge that the company later introduced two separate performance measurement systems in few years time, makes the issue socially interesting.

The fourth construction, KCIPS' strategic performance measurement system, contributes to the current BSC theory in three main ways. It provides empirical evidence of some issues which the critics of Kaplan's BSC framework has raised. BSC presupposes a deliberate strategy but in situations, when the strategy is emergent, the interactive process of the identification of key success factors is evidently important (Olve et al. 1999; Veen-Dirks & Wijn 2002). The KCIPS division manager perceived the cause-and-effect relationship between the financial and other measures as self-evident but not very important (see Laitinen 1996; Norreklit 2000). The finding of the importance of the process is not previously documented, but perhaps it is not a very isolated phenomenon.

A general conclusion from the construction processes is that perhaps the constraining factor is not the cost of the construction, i.e. its cost/benefit sensitivity (see Mattessich 1995), but the socialisation of the values and goals of the process. On the first case site the strategy process absorbed millions and the cost seemed not to be the constraint. But the obvious constraint was the inadequate comprehension of the different values of the key actors. On the second site the scale of the strategy process was smaller and more economical. So far it seems that the benefits outweigh the costs by far. The findings suggest that the mutual socialisation of the key actors contributed to the successful outcome. One can only wonder if the outcome would have been different if the organisations had doubled the investment cost of the constructions.

The observations in DCPD case are in line with the results of previous ABC surveys. The managers applied ABC in strategy related decision situations such as pricing and product-mix decisions and in customer profitability analysis as suggested in normative literature and documented in research reports (e.g. Swenson 1995; Innes and Mitchell 1995). The operative context of distorted costs and large size was favourable for implementation (Krumwiede et al. 1998). Many organisations also tend to adopt ABC on ad hoc basis but do not formalise it (Gosselin 1997). The reasons for this were observable and similar to previous research. Top management support is crucial (Anderson and Young 1999; Krumwiede et al. 1998). In DCPD case the corporate management was supportive but the business area management and, especially, the financial management did not show any major signs of interest (see also Kasurinen 2002, 330). On the other hand, the emergent prospector type strategy is associated with ad hoc adoption of ABC (Gosselin

1997) and support for the strategy process had top priority. Neither do the rather underdeveloped traditional costing and emphasis on profit centre accounts do not make good prognoses for ABC implementation (see also Chenhall and Langfield-Smith 1998a). The anticipated change in strategy enhanced the adoption of new management accounting practices including non-financial performance measures (Perera et al. 1997). The observations provide additional evidence of the social role of BSC in communication (see also Hoque and James 2000) and in strategic dialogue (see also de Haas and Kleingeld 1999).

Previous research reveals also anomalies in the adoption and implementation of SMA practices, such as unexplained variation in success, and points out the need to study the sociology of adoption and implementation of SMA practices (Shields 1995). There is obvious need for to deeper understanding of ostensible irrationalities such as failures and abandonment (Swenson 1995), fashion as motivator (Malmi 1997a) and unorthodox usage (Malmi 2001). The research setting in this study provides empirical material on failure, abandonment, fashion and variation in success. The adoption and implementation processes of the SMA constructs differed from their ideals in normative literature. The practice emphasised more interaction than the literature. The processes were far more complex in their social settings than the idealistic descriptions. Some of the events in the empirical setting appeared irrational in comparison to normative frameworks. The resistance and lack of motivation were observable. Obviously the maximisation of owners' wealth was not a primary driver of management accounting change. Also the division managers prioritised their own way of developing strategy and strategic control. The existing research on motivations and reasons for ABC and BSC, presented in the previous chapters of this study, is quite exhaustive and it provides several other reasons for adoption than the normative calls for strategic aims and ultimately the owners wealth maximisation. This study deepens and adds our knowledge about the phenomena addressed in these studies, by illustrating and analysing the reasons for the anomalies and irrational events during the development processes compared to the normative literature.

The third aim of the study was to describe and analyse the social consequences of managerial actions during and after the construction process.

Without social analysis the two case narratives appear as heroic plots of manager-hero with his researcher-squire in a rusty armour of old practices tilting at the imaginary windmills of the organisation. The two narratives showed how the personal strategizing of the division managers led to action and how actions produced consequences in the form of organisational events (see Llewellyn 1998). The empirical world is a constant flow of events

following each other in sequences where it is difficult to distinguish when a process ends and another begins. The close contact with key actors and deep involvement with the events in the organisation, while conducting constructive research, enables the researcher coherently to pick in chronological order the events which denote the change or stability in the social structures.

In the DCPD case, in the first strategy meeting, the insufficient SBA strategies indicated missing legitimation of the new SBA structure among SBU managers. The second key event was the bypassing of the division manager in decision-making concerning the future of the new mill in Malaysia. The third key event was the indifference of the business sector for the SBA structure. These events denoted the consequences of the division manager's action and gradual loss of legitimation in the strategy process as well as in the constructions based on the strategic ideas of the division manager. In the KCIPS case the interaction led to mutual socialisation in the organisation. The key event in this process was the open discussion during the second strategy meeting, when the retiring dissident of the organisation had a possibility to share his experiences in front of a mostly opposing audience. The second key event was the focus on metal workshops which denoted conformity with the corporate technological rationale. The third event in KCIPS was the public disclosure of the new business division which legitimised the strategic actions of the division manager. These events describe the social context of the SMA constructions. The social consequences of these events were in the DCPD case the alienation of the manager and in the KCIPS case the conformity and decreased strategic tensions in the organisation. In both cases the support of top management for ABC and BSC was insignificant. Moreover, in DCPD case ABC made the new SBA organisation concrete and the possibility that the new structure with own hierarchy and resources would emerge was real. Naturally, SBU managers, the key persons in the strategy process, were alarmed. The technique itself was acceptable and used for operative decision making, but the anticipated structure was not. The results of ABC analysis were the first sign what customer-orientation could mean. The focus in DCPD's strategy work was in deed on customer orientation and proceeded to different direction from the technology and production focused ideas of OCP management. Business intelligence and CFA challenged these ideas. The division manager acted according to the top management's instructions, but the meaning of customer orientation had a substance of technological advancement in the top management and a substance of focused service to selected customers in division management. The DCPD manager had a sincere belief that he and his superiors had uniform rules which led to vicious circle when additional information only deepened the differences. In KCIPS the gradual development

of performance measures was profoundly linked with the strategy process and the ideas of total maintenance partnerships, the substance in customer-orientation and final formalisation of the division all successively contributed to the implementation of the performance measurement system, but most of all, the information served the new ideas but also conformity to the technological rationale in the corporation. The researcher witnessed two different outcomes of the structuration processes. The subjective meanings could become objective facts, but they could also lead to alienation of the subject.

The fourth aim of the study was to utilise the structuration theory to explain the relationship between the different social systems and managerial behaviour in the production and reproduction of organisational practices.

The mainstream management accounting research which describes SMA as part of institutionalised monolithic MA practices does not recognise the role of managerial agency in the implementation of SMA practices. The study suggests the central role of individuals in the organisational development. The empirical setting brought the individual manager, "the customer" of the management accounting information, into research focus. Prior management accounting research has for the most part ignored the individual as an agent (about human centred accounting research, see Pihlanto 1994, 1995, 1996, 1997, 2000), an actor which is capable of reflexive monitoring and strategic conduct in his social context. The DCPD case had left the researcher puzzled, unable to conceptualise the social events during the development process. Structuration theory reconciled the dichotomy of manager-organisation. The reporting of the cases follows and illustrates the structuration process of practices from the knowledge stock of the individual manager to a modality defining the norms, facilities and interpretative schemes linking the managerial interaction to the existing structures. Some of the practices evolved further into structural properties. They gradually lost their link to the individual manager who originally introduced the practices into the organisation. These new structural properties have the ability to change also the basic social principles, i.e. the business rationale.

The study theorises how the division managers drew on external social systems and introduced new social principles into their organisations. The development of SMA constructs created new structural properties which, however, were under the cultural influence of the existing social principles in the respective organisations. The events illustrate the disjunction of social principles between the internal and external social systems. The professional and economic systems in the surrounding society differ in their values and norms from the managerial control and corporate accountability systems. The implementation of new practices exposed the organisation to the challenge of

new rules and escalated into conflict in the DCPD case, when the practices were introduced to daily management. Both the cases illustrate how the managers reflexively monitor their social setting and employ strategic conduct of their behaviour in their interaction to promote change or status quo in the corporate context.

In spite of the doubts of some researchers (Dixon 1998; Lord 1996), SMA as an organisational phenomenon does exist, but the academic interest and understanding has been, so far, limited. Management accounting techniques to support strategy work are many but still a shortage of tools to support the formulation of strategies and to identify weak signs and future trends from the immense data supply, prevails. Generally, the academics have overlooked the development of SMA toolbox, a collection of SMA techniques for different phases of continuous strategy process, but this study suggests a continuous demand of academic expertise and participation in this area where the impulse to SMA constructs comes from inside the organisation. But obviously, this type of research calls for greater commitment to in-depth perspectives to proactive use of SMA. As said before, the DCPD case amazed the researcher. The rhetoric of the top management and division management was equal and the ideas of new MA techniques in the division management implied a move towards an ideal fit with the intended strategy but in the end there was no consensus and the division manager and some other members of the division management left the company. The structuration theory provided a multiparadigmatic approach to bypass the subjectivist-objectivist dichotomy that enabled the simultaneous research on interaction and multiple structures and to penetrate the superficial explanations of failure and abandonment of MA techniques. Structuration theory also enabled the processual perspective on SMA development in the strategy process context. The process is a continuum of successes and failures of individuals and techniques, but also a continuous structuration of an intended strategy which may became realised or not.

There are many external pressures which drive the global homogenisation of management accounting practices: economic, coercive, normative and mimetic processes (Granlund and Lukka 1998). There is a continuous flow of research of these practices and their diffusion but our knowledge of how these external ideas penetrate organisations through individual managers is limited. Some of the branded management and management accounting techniques may appear as short-lived fads, but there are always technical or social expectations which these techniques are supposed to meet. The idea may be a fad but the problem is genuine, technical or social. Sometimes the external ideas get stonewashed in the organisational drum of the structuration process, but the bleached outcome serves the internal logic of the organisation. The

framework of "the social dimensions of SMA constructs" provides an analytical means to study the diffusion of SMA practices combining the impacts of external and internal constituents.

The nature of SMA is subversive, because it undermines existing practices and moreover it may even threaten the basic business rationale. In stable mature firms which have a successful history of technology utilisation, the business rationale and the action patterns are deeply rooted in the members of the organisation. The culture-bound mental models constrain the human action and subversive pressures. Simultaneously as being subversive, SMA is constitutive because it creates new routines which are the results of the managers' voluntaristic actions. The need for ontological security explains the resistance against new practices which represented a new worldview with different rules and norms, but it explains also the routinisation of new practices which reproduced the structures of corporate accountability and managerial control. However, even if implemented incompletely, SMA practices have the ability to change structural properties of organisations and enable the future development of these practices in a circular interactive manner, thus strengthening the chosen strategic direction.

The normative SMA literature has defined the technical role of individual SMA practices, but the social role is based on implicit assumptions. The authors have described structures, manuscripts, but the play becomes reality when the actors interpret the roles and the time and situation bound structuration begins. Balanced scorecard, activity-based costing and competitor-focused accounting adapted to existing accountability and control structures, but they also introduced new values to the organisation which in turn change the behaviour in the organisations, mobilised the members of the organisations and initiated investments. The subject of the study is a structuration analysis of divisional strategy processes. The study began by pinpointing the research gap in the social role of SMA practices and by anticipating the significance of this role in the strategy process. The study conceptualised the roles of SMA practices. Sociological theories have contributed to MA research, but they are still emergent in SMA research.

Although the social analysis of SMA practices is scarce, it is possible to position this study in a historical continuum of research which recognises the social role of management accounting. The discussion of the multiple roles of accounting was introduced in 1980 by Burchell et. al, who used the role analogy to describe the functions of accounting in organisations. Hopwood (1983) encouraged researchers to study accounting in action in its organisational context. Covaleski et al. (1996) classify managerial accounting research perspectives for understanding the multiple roles of management accounting in contemporary organisations into interpretative and critical

perspectives. They also recognise the contribution of contingency theory which draws on organisational-decision making and sociological functionalist literature. All these perspectives are consistent in the sense that they set management accounting in a wider (organisational and social) context than more orthodox approaches. The critical perspective (e.g. Tinker et. al 1982; Hopper et. al 1987; Miller and O'Leary 1994) avoids a consensus view of society that is the hallmark of both the functional and interpretative perspective (Covaleski et al. 1996).

This study acknowledges the results of contingency research but addresses directly the central question to sociological theory: How is it possible that subjective meanings become objective facts? (see Berger and Luckmann 1966). Strategic change is ultimately bound up with values and beliefs in organisations, or structures of meaning (Dent 1990). The cases document the way SMA manifests management's strategic notions. The interpretative perspective has developed most forcefully within institutional theory. The general theme of the institutional perspective is that an organisation's survival requires it to conform to social norms of acceptable behaviour as much as to achieve high levels of production efficiency (see Meyer and Rowan 1977; Powell and DiMaggio 1991; Scott 2001). The theorists (e.g. Covaleski and Dirsmith 1988; Fligstein 1987, 1990; Mezias 1990; Dirsmith et. al 1997) in this category see managerial accounting practices and information as socially constructed phenomena with the full implications of the power and politics of social construction rather than as a technically rational function driven by and serving the internal operations of organisations. Managerial accounting is seen as being implicated in the social construction of reality rather than as being passively reflective of the reality as depicted in contingency theory and its predecessors. (Covaleski et al. 1996.) Although this study shares the ontological and epistemological assumptions of the interpretative perspective (as described in Chua 1986, 615), it introduces managerial action into the research setting and contributes to the structuralist view of the institutional theorists by increasing the understanding of the manager-driven adoption phase of SMA practices.

Structuration theory as an analytical tool to understand and explain the social roles of management accounting emerged at the beginning of the 90's (Capps et al. 1989; Mouritsen 1990; Macintosh and Scapens 1990, 1991; Granlund 1998; Burns and Scapens 2000; Ahrens and Chapman 2002). The use of structuration theory has been limited to fit the specific research questions. In this sense the multi-level framework of this study, which covers the social dimensions of SMA, is unique.

The key question in this research was: *What is the role of strategic management accounting in the manager-driven constitution of organisational practices?*

Normative expectations, both in the literature and in practice, defined the role of SMA. The starting point was the general assumption that SMA is about the provision and analysis of information, i.e. building up the strategic knowledge of the decision makers and organisation at large. So far the researchers have concentrated on specific SMA practices or groups of practices selecting them on various grounds. This research had the widest possible basis for selection. The study covered both those practices which were serving historically oriented strategic control purposes and future oriented planning purposes. Another dimension was the nature of information, purely financial or comprehensive covering both financial and non-financial information. The only limitation was the observations in the case contexts which ruled out some SMA practices. SMA-practices had four technical roles in supporting the strategy process, to provide information for *analysis*, *development*, *formulation* and *monitoring* of strategy. The roles were not mutually exclusive and the emphasis depended on the phase and nature of the strategy process. In the case contexts the support in technical sense was weakest in the formulation of the strategy. The empirical settings, the formal strategy processes, emphasised the social role of SMA practices. Structuration theory provided analytical tools to examine the social role. The role of SMA as *interaction* was to initiate the actions of the manager, to enable the communication of the need to change, and to oblige the actors morally. The role of SMA as *modality* was to facilitate and represent information which sets up new rules of strategic conduct. The role of SMA as *structure* was to express shared meanings and legitimate means to mobilise the members of the organisation and to initiate investments and divestments. SMA as structure reaches over the boundaries of the organisation as the meanings are shared in professional bodies and society at large. The social role of SMA-practices in the case contexts grew gradually from interaction to modality and structure. The research suggests that SMA has a technical function in a strategy process but stresses its social function.

Social function refers to a process, structuration, in which actors draw on structures and change them. As structures refer to static relationships, the concept of structuration is useful in understanding the diffusion process of SMA practices. The strategy process emphasises the subversive nature of SMA. The aim of interaction is to initiate action to reach new customers, products, and to adopt, implement and use new patterns of action. From an individual actor's standpoint this may lead to a change of rules and loss of confidence and trust. Through reflexive monitoring of actors the structuration

may also lead to conformity, to avoidance of anxiety. In the reproduction of social structures the subversive nature of SMA is moderated. The use of structuration theory deepens our understanding, gives new insights and even explains the outcomes of the adoption of SMA practices. The framework of this study conceptualises the roles of SMA within the context of strategic management praxis.

5.2 General implications

If a researcher wants to draw any general conclusions from a case study, the first problem is the inductive nature of the study. Is the human behaviour predictable? Is generalisation possible at all? This subchapter evaluates the possibilities of generalisation in this study.

The views in accounting literature concerning generalisability range from one extreme to another. There is a view which denies the possibility of generalisation in case studies because statistical reasoning is impossible, and there is a view which denies the rationale of the aim to generalise. Adopters of the third, moderating view, argue that properly conducted case studies of high quality can produce generalisable results. (Lukka & Kasanen 1995, 76.)

The evidence on individual SMA practices in this study is anecdotal. The results are valid in the case contexts and they contribute to the theoretical discussion but the small number of research objects makes the generalisation of these results impossible. This was not even the aim of the study. However, the formulation of the research question, what is the role of strategic management accounting in the manager driven-constitution of organisational practices, expresses the researcher's intention to draw conclusions which reach over the limits of time and space of the cases.

Kasanen et al. (1993, 260; see also Lukka & Kasanen 1995, 83) suggest that the generalisation of managerial constructions may be regarded as a diffusion process of innovations. One of the constructions in this study passed the weak market test which is not by any means a proof of its applicability in similar organisations elsewhere. Despite the high hopes of the researcher, the division managers in the case organisations were not interested in designing novel constructions *per se* but moderated the expectations to the implementation of SMA practices already available. Kasanen et al. (1993, 260) make though an interesting comment: *"after designing a working managerial construction, we may begin to consider what are the more general features which are revealed by the creation of a new reality"*. This study suggests that it is possible to put the word "working" in brackets and argue that a practical failing of the

construction or construction process create new reality which perhaps has general features (see Lukka 2000, 116 footnote).

Lukka & Kasanen (1995, 83) claim that contextual generalisation rhetoric is one option in case studies:

> *A necessary condition for the power of rhetoric in this approach is the attainment of a thorough understanding in the main case analysis and its credible reporting. To make such a rhetoric work the researcher has to understand and communicate the real business context and uncover general structural relationships. Thus the key point is a meaningful and convincing connection of the study with the real-world phenomena surrounding the case in question, such as history, institutions and markets. (Lukka & Kasanen 1995, 83.)*

The emphasis on this type of generalisation rhetoric involves interaction between social theory and observation. Case observations are often a part of theoretical studies in which a case is used as an illustrative device to support a theoretical analysis by examples, offering a practical forum to make the argumentation more concrete. (Lukka & Kasanen 1995, 78; see also Humphrey & Scapens 1996.)

Management accounting as an institutionalised practice makes it a rewarding subject for structurationist studies which focus on the role of management accounting in reinforcing the social structures (see e.g. Capps et al. 1989; Macintosh and Scapens 1990; Ahrens and Chapman 2002). These studies suggest general features of society, i.e. illustrate in accounting context that Giddens's theory of the constitution of society is generally valid (see Lukka & Kasanen 1995, 78). The context of strategic transition incorporates other interpreters of Giddens in management studies like Pettigrew (1985, managerial response to environmental change), Sarason (1995, organisational identity) Jones et al. (2000, innovation process). As an emerging concept SMA has no institutionalised form and in the study the SMA constructions are examples of a diffusion process of professionally institutionalised practices into the organisations. The basic nature of emerging SMA is different from the nature of the traditional MA. This thesis contributes to the discussion around structuration theory by asking: does structuration theory reveal us general features of SMA (roles) in interactive relationships between human actor and social structures. The generalisation rhetoric in this study is thus contextual.

Giddens argues that structuration theory is rather a "theory" as a generic category than "theories" as explanatory generalisations (Giddens 1989, 295) but he also emphasises that detailed ethnographic work can show us a great deal about institutional reproduction (Giddens 1989, 296; see also Giddens 1984). This study used structuration theory to highlight the potentially

subversive nature of SMA practices in the contest of control in organisations (see Macintosh & Scapens 1990, 274). The study also demonstrated how SMA made the disjunction of social systems visible. But SMA may reverse its position from subversive agency to a structure maintaining the social order by making sense and legitimating strategic action.

This study has explained the presence and absence of SMA by an interplay between external macro-level systems and organisation's internal social systems. The individual human actors, the division managers and the researcher in this study, link the different systems. The human actor makes voluntaristic choices of social systems upon which he draws the values and norms. When the key actor has intentions to change the social structures by introducing new rules and routines, the transformative capacity of the actor is of pivotal importance. The actor must be professionally qualified and have true command over resources in the organisation. (Giddens 1984; Whittington 1992.)

Although the central concept in this report is the managerial agency, this structurationist view is consciously synthesised with the institutionalist perspective on social systems in the lines with Whittington's framework (1992). Thus this study relates also to the theoretical contributions of Powell & DiMaggio (1991), Miller (1994) and Scott (2001) which all predominately focus on the effects of extra-organisational institutions but the attention of the research is undoubtedly in intra-organisational processes. Burns & Scapens (2000; see also Barley & Tolbert1997) see management accounting as an institution within the individual organisation. Their institutional framework influenced the analysis and theorising of the empirical material in this report. In spite of the fact that the institutional framework has its roots in structuration theory it almost totally neglects the managerial agency which has a crucial role in this study.

Case studies of the relationships between MCS and strategy have a common emphasis on the importance of the managers' perceptions effecting the nature of strategic change, or the orientation of the MCS. Managers' perceptions can be considered a mediating variable in the relationship between MCS and strategy (Chenhall and Langfield-Smith 1998b; Langfield-Smith 1997; Simons 1995; Archer and Otley 1991). In both cases, DCPD and KCIPS, the strategy meetings were the main integrating mechanisms which facilitated the relationships between SMA and strategy. Researchers have noted the interdependence of formal and informal controls and strategic processes (Langfield-Smith 1997; Simons 1995; Archer and Otley 1991; Roberts 1990), but this study adds to our knowledge of the role (S)MA plays in the realisation of the strategic intentions of the managers.

This study opens up possibilities for both surveys and deep case analysis. Appealing areas of research would be the project managers and initiators in SMA development processes. How qualified are they in their tasks? Where did they personally adopt the knowledge of the practices? What are their priorities? What did they perceive as the most important issues during the development process? Also the cultural factors are possible subjects for further research. What types of companies implement SMA practices? What kind of changes do they seek for? How do they evaluate the rate of success in their projects? How do the diagnostic control systems reflect the intended or realised strategies? These questions have practical value. Highlighting the importance of behavioural and cultural issues in the development and implementation of novel management accounting practices may decrease the obvious present waste of financial and human resources during the future projects.

The researchers could also strive for possibilities to participate in strategy processes to increase our understanding of the social functions of management accounting and to explicitly discuss the role of theory in the research process. The contributions may be even partially illustrated theories (see Sutton and Staw 1995) or use the case itself as a focal point and let the problems relating to strategic management accounting practice drive the research and theorising (see Humphrey and Scapens 1996). The research process also revealed possibilities to more technocratic research approaches to strategy processes. The constructive research approach can enhance the development of information systems and mental models to support strategy formation and formulation. The emergence of data mining techniques is an evident answer to demands on this area, but the constructive research approach can offer more than technology. The socially aware analysis may identify the potential in the organisation and focus the constructive development work on the most important issues in those parts of the organisation where the potential is greatest. This study argued for inclusion of values in the research. The values are behind the norms in organisations and after this research process the importance of values in the construction of SMA practices seems self-evident. The categorisation of values was strongly reduced in the study but it, hopefully, shows the way to other researchers. The difficulty in participating and observing the strategy process is to follow the non-discursive communication. The researcher was lucky to be familiar with many of the strategic and operative issues in the case organisations. But those researchers who enter the setting without any previous knowledge, may have troubles in understanding the deeper significance of the observable phenomena. The members of an organisation share tacit knowledge which does not necessarily come to the discursive level.

The big issue is the future development of SMA concept. Does it meet the potential needs of practice? The researcher is not by any means depressed by the results of the studies concerning the present vague state of the concept. On the contrary the researcher is still convinced that there is a need for a strategic management accounting toolbox, a set of different normative models which the organisations could adopt during their strategy processes and/or implement in daily use after their own choice. The practice does not promote elaborate techniques or time consuming development processes, which makes the academic contribution valuable as long as the researchers share the basic assumptions with different types of companies. The practitioners appreciate simple solutions to analyse the business problems, to support their decision-making and control their businesses. The development of this kind of concept calls for a research program which recognises the different values and norms and which connects the organisational goals to the means to achieve them (see Mattessich 1995).

The practices which the case organisations employed, appeared to reproduce the central corporate rationales and to reflect the outcomes of existing strategies, but simultaneously they did enforce new strategic ideas. However, the cultural factors and the strategic conduct of the managers influenced these ideas to a large extent. The results raise some interesting questions regarding the potential of SMA to actually promote strategic change in unadaptive strong cultures. Do SMA practices such as ABC, BSC and CFA inhibit growth and development of companies, totally contrary to the normative claims? If the corporate culture is the constraint, should the companies focus on the true values and norms of the organisation and use, in this respect, more effective beliefs and boundary systems than diagnostic systems in strategic control. The trouble and danger in the introduction of a new rationale is that nobody knows the outcome in advance. The results of changes in strong cultures may be disastrous and they may also save the company. The break-down of existing structures may expose the company to new types of risks. The company may also lose its ability to hedge against the old inherent risks. From a practitioner's viewpoint changing the business logic is far more risky than relatively innocent running after managerial fads which do not penetrate the organisational structures.

In turnaround situations, when the members of the organisation are conscious of the fatal consequences of the trajectory strategy, the adoption of new rules is easier than in organisations which are successful in their businesses. In crisis situations a change in rules is a must. In these situations the routinisation of new managerial practices like BSC may enforce new values on the organisation and change the worldview in the company. The results also implicate that after a decision to grow to the new type of business,

the diversified companies should let the new organisation shape its own rules and resources. Another possibility is to stick to the core business and let the financiers invest directly in the new business.

This thesis has proposed a structurationist approach to managerial agency in the development of SMA constructs. Within the theoretical framework, managerial agency draws upon both the enabling and contradictory nature of the structural principles by which the managers act. The managers derive their inspiration, not only from their managerial identity, but also from other organisational and societal systems. The cases have made an attempt to illustrate how sociological commitment in SMA research may expand both the explanations of the scarcity of the SMA concept in firms and explanations of success and failure of SMA implementations. The sociological explanations involve considerations of the balance and relationships between different social systems in terms of a manager's individual strategizing in his choice of structure for action.

REFERENCES

Abdul-Khalid, S.N. - Scapens, R. (2000) An institutionalists study of resistance to management accounting change. *A paper presented at 2nd workshop on management accounting change*, May 11-14, 2000, Oslo.

Abernethy, M. - Lillis, A. (1995) The impact of manufacturing flexibility on management control system design. *Accounting, Organisations and Society*, 20 (4), 241-258.

Ahrens, T. (1999) *Management Accounting Practices in Britain and Germany*. Harwood Academic Publishing, Amsterdam.

Ahrens, T. - Chapman, C. (2002) The structuration of legitimate performance measures and management: day-to-day contests of accountability in a U.K. restaurant chain. *Management Accounting Research*, 13, 151-171.

Ahrens, T. - Dent, J. (1998) Accounting and Organisations: Realizing the Richness of Field Research. *Journal of Management Accounting Research*, 1998.

Anderson, S. - Young, M. (1999) The impact of contextual and process factors on the evaluation of activity-based costing systems. *Accounting, Organisations and Society*, 24, 525-559.

Ansoff, H.I. (1984) *Implanting Strategic Management*. Prentice-Hall, Eaglewood Cliffs.

Ansoff, H.I. (1988) *The New Corporate Strategy*. John Wiley & Sons, USA.

Anthony, R.N. (1965) *Planning and control systems: A framework for analysis.* Harvard Graduate School of Business: Boston, Massachusetts.

Archer, S. - Otley, D. (1991) Strategy, structure, planning and control systems and performance evaluation – Rumenci Ltd. *Management Accounting Research*, Vol. 2, 263-303.

Armitage, H.M. - Atkison A.A. (1990) The Choice of Productivity Measures. In: *Measures for Manufacturing Excellence*, ed. by Kaplan, R. Harvard Business School Press, Boston Massachusetts.

Ashton, D. - Hopper, T. - Scapens, R.W. (eds.) (1995) *Issues in Management Accounting*, Prentice Hall International, London.

Atkinson, A. - Shaffir, W. (1998) Standards for Field Research in Management Accounting. *Journal of Management Accounting Research*, Vol. 10, 41-68.

Atkinson, A. - Balakrisnan, R. - Booth, P. - Cote, J. - Groot, T. - Malmi, T. - Roberts, H. - Uliana, E. - Wu, A. (1997) New directions in management accounting research, *Journal of Management Accounting Research*, 9, 79-108.

Barley, S. R. - Tolbert, P.S. (1997) Institutionalization and Structuration: Studying the Links between Action and Institution, *Organization Studies* 18/1, 93-117.

Bartlett, C.A. - Ghostal, S. (1989*) Managing Across Borders, The Transnational Solution*. Harvard Business School Press, Boston Massachusetts.

Berger, P.L. - Luckmann, T. (1966) *The social Construction of Reality*. Harmondsworth, Penguin.

Beischel, M.E. - Smith, K.R. (1991) Linking the Shop Floor to the Top Floor. *Management Accounting*, October, 25- 29.

Birkinshaw, J. - Hood, N. 2001 Unleash Innovation in Foreign Subsidiaries. *Harvard Business Review*, March.

Blocher, E. - Berry, W.L. (1998) Cost management with a strategic emphasis: selected manufacturing cases. *Journal of Cost Management*, November / December.

Briers, M. - Chua, W.F. (2001) The role of actor-networks and boundary objects in management accounting change: a field study of an implementation of activity-based costing. *Accounting, Organisations and Society*, 26, 237-269.

Bromwich, M. (1990) The Case for Strategic Management Accounting: The Role of Accounting Information for Strategy in Competitive Markets. *Accounting, Organisations and Society*, Vol.15 No ½, 27-46.

Bromwich, M. - Bhimani, A. (1989) *Management Accounting: Evolution not Revolution*. Chartered Institute of Management Accountants, London.

Bromwich, M. - Bhimani, A. (1994) *Management Accounting: Pathways to Progress*. CIMA.

Brouthers, K.D. - Roozen, F.A. (1999) Is It Time to Start Thinking About Strategic Accounting. *Long Range Planning*, Vol. 32, No. 3, 311-322.

Brownell, P. - Merchant, K. (1990) The budgetary and performance influences of product standardisation and manufacturing process automation. *Journal of Accounting Research,* 28, No.2, 388-397.

Bruggeman, W. - Slagmulder, R. (1995) The impact of technological change on management accounting, *Management Accounting Research*, 11, 3-25.

Burchell, S. - Clubb, C. - Hopwood, A. - Hughes, J. - Nahapiet, J. (1980) The Roles of Accounting in Organisations and Society. *Accounting, Organisations and Society* 5(1), 5-27.

Burns, J. - Scapens, R.W. (2000) Conceptualizing management accounting change: an institutional framework, *Management Accounting Research*, 6, 241-252.

Burns, J. - Vaivio, J. (2001) Management accounting change. *Management Accounting Research*, 12, 389-402.

Burns, W.J. - Stalker, G.M. (1961) *The Management of Innovation*. Tavistock, London.

Burrell, G. - G. Morgan, (1979) *Sociological Paradigms and Organisational Analysis*. Heinemann, London.

Butler, A. - Letza, S.R. - Neale, B. (1997) Linking the balanced scorecard to strategy. *Long Range Planning*, Vol. 30, No. 2., 242-253.

Buzzell, R.D. - Gale, B.T. (1987) *The PIMS Principles, Linking Strategy to Performance.* The Free Press, New York.

Capps, T. - Hopper, T. - Mouritsen, J. - Cooper, D. - Lowe, T. (1989) Accounting in production and reproduction of culture. In: *Critical Perspectives in Management Control*, ed. by W.F. Chua - T. Lowe - T. Puxty, Macmillan London.

Carral Pavon, R.C. (2002) *Systemic Intra-Organizational Industry Demand Analysis to Support an Organization's Strategy Making*. Helsinki University of Technology Institute of Strategy and International Business, Doctoral Dissertations 2002/1, Espoo.

Chandler, A.D. (1962) *Strategy and structure, chapters in the history of American industrial enterprise.* MIT Press, Cambridge.

Chenhall, R.H. (1997) Reliance on manufacturing performance measures, total quality management and organisational performance. *Management Accounting Research*, Vol. 8, 187-206.

Chenhall, R.H. (1999) Revisiting contingency research in management accounting from afar. *A paper presented in EIASM conference: Manufacturing Accounting Research*, Kolding, Denmark.

Chenhall, R.H. (2003) Management control systems design within its organisational context: findings from contingency-based research and directions for the future. *Accounting, Organisations and Society,* 28, 127-168.

Chenhall, R.H. - Langfield-Smith, K. (1998a) The relationship between strategic priorities, management techniques and management

accounting: an empirical investigation using a systems approach. *Accounting, Organisations and Society* 23(3), 243-264.

Chenhall, R.H. - Langfield-Smith, K. (1998b) Factors influencing the role of management accounting in the development of performance measures within organisational change programs. *Management Accounting Research*, Vol. 9, 361-386.

Chenhall, R.H. - Morris, D. (1986) The Impact of Structure, Environment, and Interdependence on the Perceived Usefulness of Management Accounting Systems. *The Accounting Review,* Vol. LXI, No. 1, 16-35.

Chia, Y. (1995) Decentralisation, management accounting (MAS) information characteristics and their interaction effects on managerial performance : a Singapore study. *Journal of business Finance and Accounting*, 22, 6 811-830.

Chua, W. F. (1986) Radical Developments in Accounting Thought. *The Accounting Review*, 1986, 601-632.

Chua, W.F. - Lowe, T. - Puxty, T., (eds.) (1989) *Critical Perspectives in Management Control*. Macmillan London.

CIMA (1996) *Management Accounting Official Terminology*. The Chartered Institute of Management Accountants (CIMA), London

Clayton, T. - Luchs, B. (1994) Strategic Benchmarking at ICI Fibres. *Long Range Planning*, Vol.27, No. 3, 54-63.

Coad, A. (1996) Smart work and hard work: explicating a learning orientation in strategic management accounting. *Management Accounting Research*, 7, 387-408.

Cooper, R. (1988a) The Rise of Activity Based Costing – Part One: What is an Activity-Based Costing System*? Journal of Cost Management for the Manufacturing Industry*, Summer, 45-54.

Cooper, R. (1988b) The Rise of Activity Based Costing – Part Two: When do I Need an Activity-Based Costing System*? Journal of Cost Management for the Manufacturing Industry*, Fall, 41-48.

Cooper, R. (1989a) The Rise of Activity Based Costing – Part Three: How Many Cost Drivers Do You Need, and How Do You Select Them. *Journal of Cost Management,* Winter, 34-46.

Cooper, R. (1989b) The Rise of Activity Based Costing – Part Four: What Do Activity-Based Cost Systems Look Like. *Journal of Cost Management*.

Cooper, R. - Kaplan, R.S. (1988) Measure Cost Right: Make the Right Decision, *Harvard Business Review*, Sept-Oct., 96-103.

Cooper, R. - Kaplan, R.S. (1999) *The Design of Cost Measurement Systems, Text and Cases*. Prentice-Hall, Inc.

Cooper, R. - Slagmulder, R. (1998a) Developing Meaningful Profitability Maps Cascading Cost / Benefit Trade-Offs. *Management Accounting* December.

Cooper, R. - Slagmulder, R. (1998b) Strategic Costing and Financial Reporting. *Management Accounting* October.

Cooper, R. - Slagmulder, R. (1999) Integrating Activity-Based Costing and the Theory of Constraints. *Management Accounting* February.

Covaleski, M. - Dirsmith, M. (1988) The use of budgetary symbols in the political arena: An historically informed field study. *Accounting, Organisations and Society*, 13, 1-24.

Covaleski, M. - Dirsmith, M. - Sajay, S. (1996) Managerial Accounting Research: The Contributions of Organisational and Sociological Theories. *Journal of Management Accounting Research*, Vol. 8, 1-35.

Czarniawska-Joerges, B. (1995) Narration or Science? Collapsing the Division in Organization Studies. Organization articles, Volume 21:11-33, SAGE, London.

Dacin, M.T. - Goodstein, J. - Scott, W.R. (2002) Institutional theory and institutional change: introduction to the special research forum. *Academy of Management Journal*, Vol. 45, No. 1, 45-57.

Daft, R.L. - Macintosh, N.J. (1981) A tentative exploration into the amount and equivocality of information processing in organisational work units. *Administrative Science Quarterly,* 207-244.

Degraeve, Z. - Labro, E. - Roodhooft, F. (2000) Constructing a Total Cost of Ownership supplier selection methodology based on Activity Based Costing and mathematical programming. *Second Conference on New Directions in Management Accounting: Innovations in Practice and Research*, Vol. 1, 265-302.

Delany, E. (2000) Strategic Development of the Multinational Subsidiary through Subsidiary Initiative-taking. *Long Range Planning,* 33, 220-244.

Dent, J. (1990) Strategy, organisation and control: some possibilities for accounting research. *Accounting, Organisations and Society*, 15, (1/2), 3-25.

Dent, J.F. (1991) Accounting and organisational cultures: A field study of the emergence of new organisational reality. *Accounting Organisations and Society*, Vol. 16, No. 8, pp. 705-732

Dent, J.F. (1996) Global competition: Challenges for management accounting and control. *Management Accounting Research*, 1996:7.

De Wit, B.- Meyer, R. (eds.) (1994) *Strategy, Process, Content, Context*. ST Paul.

Dirsmith, M.W. - Heian, J.B. - Covalevski, M.A. (1997) Structure and agency in an institutionalized setting: the application and social transformation of control in the big six. *Accounting, Organizations and Society*, Vol. 22. No. 1, 1-27.

Dixon, R. (1998) Accounting for Strategic Management: A Practical Application, *Long Range Planning*, Vol. 31, No. 2, 272-279.

Dugdale, D. (1990) The Uses of Activity-Based Costing. *Management Accounting* (London), October.

Emmanuel, C. - Otley, D. - Merchant, K. (1990) *Accounting for management control*. 2nd edition. Chapman and Hall, London.

Epstein, M.J. (ed.) (1992) *Advances in Management Accounting*. JAI Press Inc.

Epstein, M.J. - Manzoni, J-F. (1997) The Balanced Scorecard and Tableau de Bord, Translating Strategy Into Action, *Management Accounting*, August.

Ewing, P. (1995) The Balanced Scorecard at ABB Sweden, a Management system in a "Lean Enterprise". EFI Research paper nr 6554 August, Stockholm School of Economics.

Ezzamel, M. - Hart, H. (1987) *Advanced management Accounting, an organizational emphasis*. Cassell Educational LTD, Great Britain.

Fisher, J. (1992) Use of Nonfinancial Performance Measures. *Journal of Cost Management* Vol.6. No 1 Spring.

Fisher, J. (1995a) Implementing Target Costing. *Cost Management*, Summer.

Fisher, J. (1995b) Contingency-based research on management control systems: categorisation by level of complexity. *Journal of Accounting Literature* Vol. 14, 24-53.

Fligstein, N. (1987) The Intraorganisational Power Struggle: Rise of Finance Personnel to Top Leadership in Large Organisations, 1919-1979. *American Sociological review*, 52, 44-58.

Fligstein, N. (1990) *The Transformation of Corporate Control*. Cambridge, MA, Harvard University Press.

Foster, G. - Gupta, M. - Sjoblom, L. (1996) Customer Profitability Analysis: Challenges and New Directions. *Cost Management*, Spring.

Foucault, M. (1977) *Discipline and punish, the birth of the prison.* Penquin books, London, England.

Foucault, M. (1980) *Power/Knowledge.* Pantheon Books, New York.

Freeman, T. (1998) Transforming cost management into a strategic weapon, *Journal of Cost Management*, November-December.

Giddens, A. (1984) *The constitution of society*. Polity Press, Cambridge, UK

Giddens, A. (1989) A reply to my critics. In: *Social theory of modern societies*, ed. by Held, D. - Thompson, J.B., Cambridge University Press, Great Britain.

Giddens, A. (1990) *The Consequences of Modernity*. Polity Press, Cambridge

Giddens, A. (1991) *Modernity and Self-Identity, Self and Society in the Late Modern Age*. Polity Press, Cambridge, UK

Glautier, M. W. E. - Underdown, B. (1994) *Accounting Theory and Practice.* Fifth Edition, Pitman Publishing, London.

Goold, M. - Campbell, A. (1990) *Strategies and Styles, The Role of the Centre in Managing Diversified Corporations*. Basil Blackwell, Cambridge, Massachusetts USA.

Gordon, L.A. - Narayanan, V.K. (1984) Management accounting Systems, perceived environmental uncertainty and organisational structure: An empirical investigation. *Accounting, Organisations and Society,* 1, 33-47.

Gosselin, M. (1997) The Effect of Strategy and Organisational Structure on the Adoption and Implementation of Activity-Based Costing, *Accounting, Organizations and Society* Vol. 22.No 2, 105-122.

Govindarajan, V. (1984) Appropriateness of accounting data in performance evaluation: An empirical examination of environmental uncertainty as an intervening variable. *Accounting, Organisations and Society,* 9, 125-135.

Govindarajan, V. - Fisher, J. (1990) Strategy, control systems, and resource sharing: Effects on business-unit performance. *Academy of Management Journal*, Vol. 11.

Granlund, M. (1998) *The challenge of management accounting change, A case study of the interplay between management accounting, change and stability*. Publications of Turku School of Economics and Business Administration, Series A-7:1998.

Granlund, M. (2001) Towards explaining stability in and around management accounting systems. *Management Accounting Research*, 12 141-166.

Granlund, M. Lukka, K. (1997) From Bean-counters to Change Agents: The Finnish Management Accounting Culture in Transition. *Liiketaloudellinen Aikakauskirja*, 3, 203-255.

Granlund, M. - Lukka, K. (1998a) Towards Increasing Business Orientation: Finnish Management Accountants in a Changing Cultural Context. *Management Accounting Research*, Vol. 9, 185-211.

Granlund, M. - Lukka, K. (1998b) It's a Small World of Management Accounting Practices. *Journal of Management Accounting Research*, Vol. 10, 153-179.

Green, F.B. - Amenkhienan, F.E. (1992) Accounting Innovations: A Cross Sectional Survey of Manufacturing Firms. *Journal of Cost Management for the Manufacturing Industry*, Spring, 58-64.

Groot, T. - Lukka, K. (eds.) (2000) *Cases in Management Accounting, current practices in European companies*. Pearson Education Limited, England.

Grundy, T. (1997) Management accounting for strategic performance. *Management Accounting*, December.

Guilding, C. (1999) Competitor-focused accounting: an exploratory note, *Accounting, Organizations and Society* 24, 583-595.

Guilding, C. - Cravens, K. S. - Tayles, M. (2000) An international comparison of strategic management accounting practices, *Management Accounting Research* 11, 113-135.

Gupta, A.K. - Govindarajan, V. (1984) Business Unit Strategy, Managerial Characteristics, and Business Unit Effectiveness at Strategy Implementation. *Academy of Management Journal*, Vol. 27, 25-41.

Gupta, A.K. - Govindarajan, V. (2000) Knowledge management's Social Dimension: Lessons From Nucor Steel. *Sloan Management Review*, Fall, 71-80.

Haas, M de. - Kleingeld, A. (1999) Multilevel design of performance measurement systems: enhancing strategic dialogue throughout the organization. *Management Accounting Research*, 10 (3), 233-262.

Hamel, G. - Prahalad, C.K. (1993) Strategy as a Stretch and Leverage. *Harvard Business Review*, March-April 1993.

Hamel, G. - Prahalad, C.K. (1994) Competing for the Future. *Harvard Business Review*, July-August 1994.

Hannula, M. (1999) *Expedient Total Productivity Measurement*, Tampere University of Technology Industrial Engineering and Management, Acta Polytechnica Scandinavica, Tampere.

Held, D. - Thompson, J.B. (eds.) (1989) *Social theory of modern societes*. Cambridge University Press, Great Britain.

Heron, J. (1995) Validity in Co-operative Inquiry. In: *Human Inquiry in Action*, ed. by Reason, P., SAGE Publications.

Herring, J.P. (1992) The Role of Intelligence in Formulating Strategy. *Journal of Business Strategy*, Vol. 13 (5), 54-60.

Hines, R.D. (1988) Financial Accounting: In Communicating Reality, We Construct Reality. *Accounting, Organisations and Society*, No.3, Vol.13, 251-261.

Hofer, C. - Schendel, D. (1994) Portfolio Analysis. In: *Strategy, Process, Content, Context*, ed. by De Wit, B.- Meyer, R., ST Paul.

Hofstede, G.H. (1997) *Cultures and Organizations, Software of the mind*. MCGraw-Hill.

Hopper, T. - Storey, J. - Wilmott, H. (1987) Accounting for accounting: Towards the development of dialectical view. *Accounting, Organisations and Society*, 12, 437-456.

Hopwood, A.G. (1972) An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, Supplement, 10, 156-182.

Hopwood, A.G. (1974) *Accounting and Human Behaviour.* Haymarket Publishing Limited, Great Britain.

Hopwood, A.G. (1983) On trying to study accounting in the contexts in which it operates. *Accounting, Organisations and Society*, Vol. 8, No. 2/3, 287-305.

Hopwood, A.G. - Miller, P. (eds.) (1994) *Accounting as social and institutional practice.* Cambridge University Press, Great Britain.

Hoque, Z. - James, W. (2000) Linking Balanced Scorecard Measures to Size and Market Factors: Impact on Organisational Performance. *Journal of Management Accounting Research*, Vol. 12, 1-17.

Horngren, C. - Foster, G. - Datar, S. (1997) *Cost Accounting, A Managerial Emphasis*. Englewood Cliffs, Prentice Hall.

Humphrey, C. - Scapens R.W. (1996) Theories and case studies of organisational accounting practices: limitation or liberation? *Accounting,* Volume 9, Number 4, 86-106.

Innes, J. - Mitchell, F. (1995) A survey of activity-based costing in the U.K.'s largest companies. *Management Accounting Research* 6, 137-153.

Innes, J. - Norris, G. (1997) *The Use of Activity-based Information: a managerial perspective*. Chartered Institute of Management Accountants, London.

Ittner, C.D. - Larcker, D.F. (1998) Are Nonfinancial Measures Leading Indicators of Financial Performance? An Analysis of Customer Satisfaction. *Journal of Accounting Research*, Vol. 36 Supplement.

James, W. (1955) *Pragmatism, and four essays from The Meaning of Truth*. Meridian books, New York.

Johnson, H. T. - Kaplan, R. S. (1987) *Relevance Lost, The Rise and Fall of Management Accounting*. Harvard Business School Press, Boston, Massachusetts.

Johnson, M.B. (2002) Competitive Profiling with Financial Ratio Analysis. *Competitive Intelligence Magazine*, Vol. 5, No1, 35-39.

Jones, C.S. (1985) An empirical study of the evidence for contingency theories of management accounting systems in conditions of rapid change, *Accounting, Organisations and Society*, Vol. 10, No 3, 303-328.

Jones, K. - Lounasmeri, S. - Simon, G. (1997) *Outokumpu Drawn Copper, Competitor Analysis* (unpublished), Helsinki School of Economics and Business Administration, Student Business Projects.

Jones, O. - Edwards, T. - Beckinsale, M. (2000) Technology Management in a Mature Firm: Structuration Theory and the Innovation Process. *Technology Analysis & Strategic Management*, Vol. 12, No. 2, 161-177.

Järvenpää, M. (1998) *Strateginen johdon laskentatoimi ja talousjohdon muuttuva rooli*. Publications of the Turku School of Economics and Business Administration, Series D-1:1998, Turku.

Järvenpää, M. (2002) *Johdon laskentatoimen liiketoimintaan suuntautuminen laskentakulttuurisena muutoksena – vertaileva case-tutkimus*. Publications of the Turku School of Economics and Business Administration, Series A-5:2002, Turku.

Kaleva, M. (2000) *Käynnissäpidon palvelukonseptin tarvemääritys*. Diplomityö, Tampereen teknillinen korkeakoulu.

Kaplan, R.S. (1983a) Measuring Manufacturing Performance: A New challenge to Management Accounting Research, *Accounting Review*, 58/4, 686-705.

Kaplan, R.S. (1983b) Comments on Wilson and Jensen. *The Accounting Review*, April.

Kaplan, R.S. (1984) The Evolution of Management Accounting, *Accounting Review* 59/3, 390-418.

Kaplan, R.S. (1986) The role for empirical research in management accounting. *Accounting, Organizations and Society* 4/5, 429-452.

Kaplan, R.S. (1989) *Kanthal, Case Study*. Harvard Business School, Boston Massachusetts.

Kaplan, R.S. (ed.) (1990) *Measures for Manufacturing Excellence*. Harvard Business School Press, Boston Massachusetts.

Kaplan, R.S. (1994) Management accounting (1984-1994): development of new practice and theory. *Management Accounting Research*, 5, 247-260.

Kaplan, R.S. (1998) Innovation Action Research: Creating New Management Theory and Practice. *Journal of Management Accounting Research*, Vol. 10, 89-118.

Kaplan, R.S. - Norton, D.P. (1992) The Balanced Scorecard – Measures That Drive Performance. *Harvard Business Review*, January-February, 71-79.

Kaplan, R.S. - Norton, D.P. (1993) Putting the Balanced Scorecard to Work. *Harvard Business Review*, September-October, 134-147.

Kaplan, R.S. - Norton, D.P. (1996a) Using the Balanced Scorecard as a Strategic Management System. *Harvard Business Review*, January-February , 75-85.

Kaplan, R.S. - Norton, D.P. (1996b) *The Balanced Scorecard*. Harvard Business School Press, Boston, Massachusetts.

Kaplan, R.S. - Norton, D.P. (2001) *The Strategy Focused Organization*. Harvard Business School Press, Boston, Massachusetts

Kasanen, E. - Lukka, K. - Siitonen, A. (1991) Konstruktiivinen tutkimusote liiketaloustieteessä. *Liiketaloustieteellinen Aikakauskirja*, No 3, 301-329.

Kasanen, E. - Lukka, K. - Siitonen, A. (1993) The Constructive Approach in Management Accounting Research. *Journal of Management Accounting Research*, Vol. 5, Fall, 243-264.

Kasurinen, T. (1998) *Strategic Management Accounting, Review of literature and integrated framework.* Helsinki School of Economics and Business Administration, working papers W-209, Helsinki.

Kasurinen, T. (1999) *Exploring management accounting change*. Licentiate thesis, Helsinki School of Economics and Business Administration, Helsinki 1999.

Kasurinen, T. (2002a) Exploring management accounting change: the case of balanced scorecard implementation. *Management Accounting Research* 3, 323-343.

Kasurinen, T. (2002b) *Exploring management accounting change in the balanced scorecard context*. Publications of the Helsinki School of Economics and business Administration A-211 Helsinki.

Kawada, M., Johnson D.F. (1993) Strategic Management Accounting – why and how, *Management Accounting*, August.

KCI Konecranes Annual Review 1998

KCI Konecranes Annual Review 1999

KCI Konecranes Annual Review 2000

KCI Konecranes Annual Review 2001

Keating, P. (1995) A Framework for Classifying and Evaluating the Theoretical Contributions of Case Research in Management Accounting. *Journal of Management Accounting Research*, Fall, 67-86.

Khandwalla, P. (1972) The Effect of Different Types of Competition on the Use of Management Controls. *Journal of Accounting Research,* Vol. 10, No.2, 275-285.

Khandwalla, P. (1977) *Design of Organisations*. New York, Harcourt Brace Jovanovich.

Kim, W.C. - Mauborgne, R. (1999) Strategy, Value Innovation, and the Knowledge Economy. *Sloan Management Review*, Spring, 41-54.

Kotler, P. (2000) *Marketing Management.* Prentice-Hall, USA.

Kotter J.P. - Heskett J.L. (1992) *Corporate Culture and Performance*. The Free Press, USA.

Krim, R. (1995) Managing to Learn: Action Inquiry in City Hall. In: *Human Inquiry in Action*, ed. by Reason, P., SAGE Publications 1995.

Krogh von, G. - Ichijo, K. - Nonaka, I. (2000) *Enabling knowledge creation*. Oxford University Press, New York, USA.

Krumwiede, K. R. (1998) The implementation stages of activity-based costing and the impact of contextual and organisational factors. *Journal of Management Accounting Research*, 10, 240-277.

Labro, E. - Tuomela, T-S. (2003) On Bringing More Action Into Accounting Research: Process Considerations Based on Two Constructive Case Studies. *European Accounting Research* Vol. 12 Nr 3, 409-442.

Lainema, M. (1996) *Monialayrityksen johtaminen, Miten monialayrityksen johto voi lisätä tulosryhmiensä tai yksikköjensä arvoa*. Turun kauppakorkeakoulun julkaisuja, Sarja A-5:1996. Turku.

Laitinen, E.K. (1995) Toimintolaskennassa ongelmia, *Yritystalous*, 3/95, 66-69.

Laitinen, E.K. (1996) Dynamiikkaa yrityksen suorituskyvyn mittaamiseen. *Yritystalous* 4/96

Laitinen, E. K. (1998) *Yritystoiminnan uudet mittarit*, Kauppakaari OYJ, Helsinki.

Laitinen, E. K. (2002) *Strateginen tilinpäätösanalyysi*, Kauppakaari OYJ, Helsinki.

Langfield-Smith, K. (1997) Management Control Systems and Strategy: A Critical Review. *Accounting, Organizations and Society*, Vol. 22, No. 2, 207-232.

Larcker, D.F. (1983) The association between performance plan adoption and corporate capital investment. *Journal of Accounting and Economics*, 5, 3-20.

Lawrence, P.R. - Lorch J.W. (1967) Organization and Environment. In: *Organizational Theory*, ed. by Pugh, D.S. (1990) Penquin Books, England.

Lewin, K. (1948) *Resolving Social Conflicts*. Souvenir Press, London.

Lillis, A.M. (2002) Managing multiple dimensions of manufacturing performance – an exploratory study. *Accounting, Organizations and Society*, 27, 497-529.

Lord, B.R. (1996) Strategic management accounting: The Emperor's new clothes? *Management Accounting Research*, 7, 347-366.

Llewellyn, S. (1999) Methodological themes, Narratives in accounting and management research. *Accounting, Auditing & Accountability Journal*, Vol. 12 No. 2, 220-236.

Luft, J. - Shields, M.D. (2003) Mapping management accounting: Graphics and Guidelines for Theory-consistent Empirical Research. *Accounting, Organisations and Society* 28 (2-3), 169-249.

Lukka, K. (1990) Ontology and Accounting: The Concept of Profit. *Critical Perspectives on Accounting*, 239-261.

Lukka, K. (1991) The Epistemological Foundations of Accounting Research. *The Finnish Journal of Business Economics*, No 2, 161- 186.

Lukka, K. (1999) Case/Field –tutkimuksen erilaiset lähestymistavat laskentatoimessa. Teoksessa: *Tutkija, opettaja, akateeminen vaikuttaja ja käytännön toimija, Professori Reino Majala 65 vuotta*. toim. Heli Hookana-Turunen. Turun kauppakorkeakoulun julkaisuja Sarja C-1:1999, Turku.

Lukka, K. (2000) *The key issues of applying the constructive approach to field research*. Publications of the Turku School of Economics and Business Administration, Series A-1:2000.

Lukka, K. - Granlund, M. (1996) Cost Accounting in Finland: Current Practice and Trends of Development, *European Accounting Review* 1, 1-28.

Lukka, K. - Granlund, M. (2000) KCI Konecranes: developing non-financial measures in a global crane company. In: *Cases in Management Accounting*, ed. by Groot, T.- Lukka, K., Pearson Education Limited, England.

Lukka, K. - Granlund, M. (2002) The fragmented communication structure within the accounting academia: the case of activity-based costing research genres, *Accounting, Organizations and Society* 27, 165-190.

Lukka, K. - Kasanen, E. (1995) The Problem of Generalizability: Anecdotes and Evidence in Management Accounting. *Accounting, Auditing and Accountability Journal* Vol. 8, No 5, 71-90.

Lukka, K. - Shields, M. (1999) Innovations in Management Accounting focus. *Management Accounting* (London), Vol. 77, No 3, March 1999, 33-34.

Lukka, K. - Shields, M. (2001) *Management accounting: innovations in practice and research.* CIMA Research Update, Cima publishing, Spring / Summer.

Lukka, K. - Tuomela, T-S. (1998) Testattuja ratkaisuja liikkeenjohdollisiin ongelmiin: konstruktiivinen tutkimusote. *Yritystalous* 4/98.

Lynch, R.L. - Cross, K.F. (1993) *Measure Up! Yardsticks for Continuous Improvement*. Blackwell, USA.

Macintosh, N.B. (1994) *Management Accounting and control systems: an organisational and behavioural approach.* John Wiley and Son, Chichester, UK.

Macintosh, N. - Daft, R.L. (1987) Management control systems and departmental interdependencies: an empirical study. *Accounting, Organisations and Society*, Vol. 12, No 1. 49-61.

Macintosh, N.B. - Scapens R.W. (1990) Structuration Theory in Management Accounting, *Accounting, Organizations and Society*, Vol. 15, No. 5, 455-477.

Macintosh, N.B. - Scapens R.W. (1991) Management Accounting and Control Systems: A Structuration Theory Analysis, *Journal of Management Accounting Research*, Vol.3, Fall, 131-158.

Malaska, P. (2002) (toim.) *Eero Kasanen 50 vuotta, Opinnäytekerhon onnittelut*. Publications of the Turku School of Economics and business Administration, Series C-1.

Malina, M.A. - Selto, F.H. (2001) Communicating and Controlling Strategy: An Empirical Study of the Balanced Scorecard. *Journal of Management Accounting Research*, Vol. 13, 47-90.

Malmi, T. (1994) *Kustannuslaskentajärjestelmän rakenne ja muutos, case toimintolaskelma*. Helsingin kauppakorkeakoulun julkaisuja, A-128, Helsinki.

Malmi, T. (1997a) *Adoption and Implementation of Activity-Based Costing: Practice, Problems and Motives*. Publications of the Helsinki School of Economics and Business Administration A-128, Helsinki.

Malmi, T. (1997b) Towards explaining activity-based costing failure: accounting and control in a decentralised organisation. *Management Accounting Research* 8, 459-480.

Malmi, T. (2001) Balanced scorecards in Finnish companies: A research note, *Management Accounting Research* 12, 207-220.

Maskell, B.H. (1989) Performance Measurement for World Class Manufacturing. *Management Accounting*, May-September.

Mattessich, R.V. (1978) *Instrumental Reasoning and Systems Methodology.* Dordrecht, Reidel.

Mattessich, R.V. (1995) *Critique of Accounting, Examination of the Foundations and Normative Structure of an Applied Discipline*. quorum books, USA.

McLaren, J. (1999) A strategic perspective on economic value added. *Management Accounting*, April.

Meer-Kooistra van der, J. - Vosselman, E.G.J. (2000) Management control of interfirm transactional relationships: the case of industrial renovation and maintenance. *Accounting, Organizations and Society* 25, 51-77.

Merchant, K. (1981) The design of corporate budgeting system: influences on managerial behaviour and performance. *The Accounting Review*, 4, 813-829.

Merchant, K. (1984) Influences on departmental budgeting: an empirical examination of contingency model. *Accounting, Organisations and Society*, 9(4), 291-307.

Merchant, K.A. (1985) *Control in Business Organizations*. Ballinger, USA.

Meyer, C. (1994) How the Right Measures Help Teams Excel. *Harvard Business Review*, May-June, 95-103.

Meyer, J.W. - Rowan, B. (1977) Institutionalized Organizations: Formal Structure as a Myth and Ceremony. *American Journal of Sociology*, 340-363.

Mezias, S. (1990) An Institutional Model of Organisational Practice: Financial Reporting at the Fortune 200. *Administrative Science Quarterly*, 35, 431-457.

Mezias, J.M. - Grinyer, P. - Guth, W.D. (2001) Changing Collective Cognition: A Process Model for Strategic Change. *Long Range Planning*, 34, 71-95.

Mia, L. (2000) Just-in –time manufacturing, management accounting systems and profitability. *Accounting and Business Research*, 30(2), 137-151.

Miles, R. - Snow, C. (1978) *Organisational strategy, structure and process*. McGraw Hill, New York.

Miller, P. (1994) Accounting as social and institutional practice: an introduction. In: *Accounting as social and institutional practice*, ed. by Hopwood, A. – Miller, P., Cambridge University Press, Great Britain.

Miller, P. - O'Leary, T. (1994) Governing the calculable person. In: *Accounting as social and institutional practice*, ed. by Hopwood,A. – Miller. P., Cambridge University Press, Great Britain.

Mintzberg, H. (1983) Power In and Around Organizations. Prentice-Hall, Inc., Englewood Cliffs, USA.

Mintzberg, H. (1989) *Mintzberg on management: Inside Our Strange World of Organisations*. Free Press, New York.

Mintzberg, H. (1990) The Design School: Reconsidering the Basic Premises of Strategic Management. *Strategic Management Journal*, XI, 1990.

Mintzberg, H. (1994) *The Rise and Fall of Strategic Planning*, The Free Press, New York.

Mintzberg, H. - Quinn, J.B. (1996) *The Strategy Process, Concepts, Contexts, Cases*, third edition, Prentice Hall International, USA.

Mintzberg, H. - Ahlstrand, B. - Lampel, J. (1998) *Strategy Safari*. Pearson Education Limited, Great Britain.

Mintzberg, H. - Lampel, J. (1999) Reflecting on the Strategy Process. *Sloan Management Review*, Spring 1999.

Mitchell, F. (1994) A commentary on the applications of activity-based costing. *Management Accounting Research*, 5, 261-277.

Morrow, M. (ed.) (1992) *Activity-based Management*. Woodhead –Faulkner, Great Britain.

Mouritsen, J. (1990) *The Social Significance of Accounts: Accounting Practices in the Danish Subsidiary of an International American Corporation*. Samfundslitteratur, Copenhagen.

Mouritsen, J. (1995) Management Accounting in Global Firms. In: *Issues in Management Accounting*, ed. by Ashton, D. - Hopper,T. - Scapens, R. W., Prentice Hall International, London.

Määttä, S. (2000) *Tasapainoinen menestysstrategia*. Infoviestintä Oy, Helsinki.

Niederkofler, M. (1991) The Evolution of Strategic Alliances: Opportunities for Managerial Influence. *Journal of Business Venturing* 6, 237-257.

Niiniluoto, I. (1984) *Is Science Progressive*. D. Reidel Publishing Company, Dordrecht, Holland.

Nonaka, I. - Takeuchi, H. (1995) *The Knowledge-Creating Company*. Oxford University Press, New York.

Norreklit, H. (2000) The Balance on the balanced scorecard, a critical analysis of some of its assumptions. *Management Accounting Research*, 2000, 11, 65-88

O'Hanlon, J. - Peasnell, K. (1998) Wall Street's contribution to management accounting: the Stern Stewart EVA® financial management system. *Management Accounting Research*, 9, 421-444.

Olve, N-G. - Roy, J. - Wetter, M. (1999) *Performance Drivers: A Practical Guide to Using the Balanced Scorecard*. John Wiley & Son Ltd.

Otley, D. (1978) Budget use and managerial performance. *Journal of Accounting Research*, 16, 122-149.

Otley, D. (1995) Management Control, Organisational Design and Accounting Information Systems. In: *Issues in Management Accounting*, ed. by Ashton, D. - Hopper, T. - Scapens, R.W., Prentice Hall International, London.

Outokumpu Annual Review 1995

Outokumpu Annual Review 1996

Outokumpu Annual Review 1997

Outokumpu Annual Review 1998

Outokumpu Annual Review 1999

Outokumpu Annual Review 2000

Outokumpu Annual Review 2001

Ouchi, W.G. (1979) A Conceptual Framework for the Design of Organizational Control Mechanisms. *Management Science*, No. 9, September.

Paananen, J. (1998) *Toimintolaskenta tuotannonohjauksen osana, Case: Outokumpu Poricopper, Vedetyt tuotteet.* pro gradu, Helsingin kauppakorkeakoulu.

Palmer, R.J. (1992) Strategic goals and objectives and the design of strategic management accounting systems. In: *Advances in Management Accounting*, ed. by Epstein, M.J., JAI Press Inc.

Partanen, V. (1997) *Laskentatoimen muutos ja organisaatiokulttuuri, Case: toimintolaskennan implementointi*. Publications of Turku School of Economics and Business Administration, Series D-3:1997.

Partanen, V. (2001) *Muuttuva johdon laskentatoimi ja organisatorinen oppiminen, Field-tutkimus laskentahenkilöstön roolin muutoksen ja uusien laskentainnovaatioiden käyttöönoton seurauksista*. Publications of Turku School of Economics and Business Administration, Series A-6:1

Pentland, B. (1999) Building process theory with narrative: From description to explanation. *Academy of Management Review*, Vol. 24 No 4, 711-724.

Perera, S. - Harrison, G. - Poole, M. (1997) Customer-Focused manufacturing strategy and the use of operations-based non-financial performance measures: a research note. *Accounting, Organisations and Society*, 22(6), 557-572.

Pettigrew, A. (1985) *The Awakening Giant, Continuity and Change in ICI*. Basil Blackwell. UK.

Pihlanto, P. (1994) The action-oriented approach and case study method in management studies. *Scandinavian Journal of Management*, Vol. 4, 369-382.

Pihlanto, P. (1995) *The instrumental manager and participative manager: two different profiles of the use of information*. Publications of Turku School of Economics and Business Administration, Series A-9:1995.

Pihlanto, P. (1996) *Knowledge in the Consciousness of the Producer and User of Accounting Information*. Publications of the Turku School of Economics and Business Administration, Series A-8:1996.

Pihlanto, P. (1997) *The Holistic Concept of Man and perspectives on accounting Research*. Publications of the Turku School of Economics and Business Administration, Series A-11:1997.

Pihlanto, P. (2000) *Institutionaalinen teoria ja yksilötaso. Havaintoja Burnsin & Scapensin viitekehyksen pohjalta*. Summary: Institutional Theory and the Level of an Individual. Reflections on the Burns & Scapens Framework. Turun kauppakorkeakoulun julkaisuja. Sarja: Keskusteluja ja raportteja 9, Turku.

Pihlanto, P. (2002) Rationaalisen toimijan oletus, subjektivismi ja konstruktiivinen tutkimusote. In: *Eero Kasanen 50 vuotta Opinnäytekerhon onnittelut*, ed. by Pentti Malaska Publications of the Turku School of Economics and business Administration, Series C-1..

Porter, M. (1980) *Competitive Strategy.* The Free Press, New York.

Porter, M. (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press, New York.

Porter, M.E. (1996) What is Strategy. *Harvard Business Review*, November-December.

Powell, W.W. - DiMaggio, P.J. (eds.) (1991) *The new institutionalism in organizational analysis*. The University of Chicago Press, USA.

Prahalad, C.K. - Doz, Y.L. (1987) *The Multinational Mission, balancing local demands and global vision*. The Free Press, London.

Pugh, D. S. (ed.) (1990) *Organizational Theory.* Penquin Books, England.

Puolamäki, E. (1998) *Strateginen johdon laskentatoimi globalisoituvassa liiketoiminnassa, konstruktiivinen tutkimus*. Publications of the Turku School of Economics and Business Administration, Series D-3:1998, Turku.

Quattrone, P. - Hopper, T. (2001) What does organisational change mean? Speculations on taken for granted category. *Management Accounting Research*, 12, 403-435.

Quinn, J.B. (1980) *Strategies for Change : Logical Incrementalism*. Richard D. Irwin.

Raynor, M.E. - Bower, J.L. (2001) Lead from the Center, How to Manage Divisions Dynamically. *Harvard Business Review*, May.

Reason, P. (ed.) (1995) *Human Inquiry in Action*. SAGE publications.

Roberts, J. (1990) Strategy and accounting in a U.K. Conglomerate. *Accounting, Organisations and Society*, 15 (1/2), 107-126.

Rockart, J. F. – Crescenzi, A.D. (1984) Engaging top management in information technology. *Sloan Management Review*, Summer, 3-16.

Rockart, J. F. - Treacy, M. J. (1982) The CEO goes on-line. *Harvard Business Review*, January-February 1982.

Roslender, R. (1995) Accounting for Strategic Positioning: Responding to the Crisis in Management Accounting, *British Journal of Management*, Vol.6, 45-57.

Roslender, R. - Hart, S.J. (2000) *Integrating management accounting and marketing in the pursuit of competitive advantage: the case for strategic management accounting*. Unpublished working paper.

Roslender, R. - Hart, S.J. (2003) In search of strategic management accounting: Theoretical and field study perspectives. *Management Accounting Research*, 14, 255-279.

Roslender, R. - Hart, S. - Ghosh, J. (1998) Strategic Management Accounting, refocusing the agenda. *Management Accounting*, December 1998.

Sarason, Y. (1995) A model of organizational transformation: The incorporation of organizational identity into a structuration theory framework. *Academy of Management Journal*, 47-51.

Scapens, R.W. (1994) Never mind the gap: towards an institutional perspective of management accounting practices, *Management Accounting Research*, 5(3/4), 301-321.

SCEMM (1998) *Keep It Running, Industrial Asset Management*. Painoyhtymä Oy, Loviisa.

Schein, E.H. (1992) *Organizational Culture and Leadership*. Second Edition, Jossey-Bass Publishers, San Francisco.

Schneiderman, A.M. (2001) the first balanced scorecard: Analog devices, 1986-1988. *Journal of Cost Management*, September / October.

Schnoebelen, S.C. - Aerne, D.J. - Miller, C.G. (1999a) Leveraging maintenance through strategic performance measures (part1). *Journal of Cost Management*, September / October.

Schnoebelen, S.C. - Aerne, D.J. - Miller, C.G. (1999b) Leveraging maintenance through strategic performance measures (part2). *Journal of Cost Management*, September / October.

Scott, R. (2001) *Institutions and Organizations*. Second Edition, Sage Publications, USA.

Scott, T.W. - Tiessen, P. (1999) Performance measurement and managerial teams. *Accounting, Organisations and Society*, 24(3), 107-125.

Searle, J.R. (1995) *The Construction of Social Reality*. Free Press, New York.

Serrano-Cinca, C. (1998) From Financial Information to Strategic Groups: A Self-organizing Neural Network Approach. *Journal of Forecasting*, 17, 415-428.

Shank, J.K. (1996) Analysing technology investments – from NPV to Strategic Cost Management (SCM). *Management Accounting Research*, 2, 185-197.

Shank, J.K. - Fisher, J. (1999) Case Study: Target Costing as a Strategic Tool. *Sloan Management Review*, Fall, 73-82.

Shank, J.K. - Govindarajan, V. (1989) *Strategic Cost Analysis, The Evolution from Managerial to Strategic Accounting*. Irwin, Boston, Massachusetts.

Shank, J.K. - Govindarajan, V. (1992) Strategic Cost Analysis of Technological Investments, *Sloan Management Review*, Fall.

Shank, J.K. - Govindarajan, V. (1993) *Strategic Cost Management, A New Tool for Competitive Advantage*. Free Press, New York.

Shields, M.D. (1995) An Empirical Analysis of Firms' Implementation Experiences With Activity-Based Costing, *Journal of Management Accounting Research*, Vol.5, no ¾, 148-166.

Simmonds, K. (1981) *The Fundamentals of Strategic Management Accounting*. ICMA, London.

Simmonds, K. (1986) The Accounting Assessment of Competitive Position. *European Journal of Marketing*, 20, 16-31.

Simons, R. (1987) Accounting Control Systems and Business Strategy: An Empirical Analysis. *Accounting, Organizations and Society*, Vol. 12, No. 4, 357-374.

Simons, R. (1995) *Levers of Control*. Harvard Business School Press, Boston, Massachusetts.

Simons, R. (1999) How Risky is Your Company. *Harvard Business Review*, May-June 1999.

Simons, R. (2000) *Performance Measurement & Control Systems for Implementing Strategy*. Prentice Hall.

Stern, J. - Stewart, G. - Chew, D. (1995) The EVA® Financial Management System, *Journal of Applied Corporate Finance*, Summer, 32-46.

Stewart, G. (1991) *The Quest for Value*. New York, Harper Business.

Sutton, R.I. - Staw, B.M. (1995) What Theory is Not. *Administrative Science Quarterly*, 40, 371-384.

Swenson, D. (1995) The Benefits of Activity-Based Cost Management to the Manufacturing Industry. *Journal of Management Accounting Research*, Vol. 7, Fall, 167-180.

Taggart, J.H. (1998) Strategy shifts in MNC subsidiaries. *Strategic Management Journal*, Vol. 19, 663-681.

Tamminen, R. (1992) The development inquiry approach. *Liiketaloudellinen aikakauskirja* 41 (1), 42-61.

Tinker, A. - Merino, B. - Neimark, M. 1982 The normative origins of positive theories: Ideology and accounting thought. *Accounting, Organisations and Society*, 7, 167-200.

Tomkins, C. (2001) Interdependencies, trust and information in relationships, alliances and networks, *Accounting, Organizations and Society* 26, 161-191.

TOTI[2] Strategic management (1993), *Publications of Federation of Finnish Metal, Engineering and Electrotechnical Industries, FIMET*, Metalliteollisuuden Kustannus Oy.

Tuomela, T-S. (1999) Measuring Performance in a Customer Focused Company, A Constructive Case Study. *A paper presented at the EIASM Workshop on New Directions in Management Accounting: Innovations in Practice and Research*, Brussels, Belgium December 1998.

Tuomela, T-S. (2000) *Customer Focus and Strategic Control, A constructive case study of developing a strategic performance measurement system at FinABB*. Publications of the Turku School of Economics and Business Administration, Series D-2:2000, Turku.

Turney, P.B.B. - Anderson, B. (1989) Accounting for Continuous Improvement. *Sloan Management Review*, Winter, 37-47.

Vaivio, J. (1995) *The Emergence of Non-financial Management Accounting Measures*. Publications of Helsinki School of Economics and Business Administration, Series B-158, Helsinki.

Vaivio, J. (2001) *Non-financial Measurement in an Organizational Context*. Publications of Helsinki School of Economics and Business Administration, Series A-186, Helsinki.

Valve, R. (1998) *Sales and Marketing Network Development – Future Information Technology Tools for a Salesman in Global Marketing*. Master's Thesis, Turku School of Economics and Business Administration.

Ward, K. (1992) *Strategic Management Accounting*. Butterworth-Heinemann Ltd, Scotland.

Vaso, J. (1998) *Ammatillisen aikuiskoulutuksen laatu*. Acta Universitatis Tamperensis 588.

Veen-Dirks van, P. - Wijn, M. (2002) Strategic Control: Meshing Critical Success Factors with the Balanced Scorecard. *Long Range Planning*, Vol. 35, 407-427.

Vehmanen, P. (1999) The Contribution of Activity-Based Costing to the Discipline of Accounting. *A paper presented at Fourth International Seminar on Manufacturing Accounting Research*, Kolding Denmark, June 1999.

Westphal, J.D. - Fredrickson, J.W. (2001) Who directs strategic change? Director experience, The selecting of new CEOs, and change in corporate strategy. *Strategic Management Journal*, 22, 1113-1137.

Whittington, R. (1992) Putting Giddens into action: social systems and managerial agency. *Journal of Management Studies*, 29:6 November, 693-712.

Whittington, R. (1993) *What is Strategy and does it matter*. Routledge, London.

Wilson, R.M.S. (1995) Strategic Management Accounting. In: *Issues in Management Accounting,* ed. by Ashton, D. - Hopper, T. - Scapens, R. W. Prentice Hall International, London.

Wright, G. von. (1983) *Practical Reason*. Basil Blackwell, England.

Väänänen T. - Parviainen P. (1998) *Development of the Key Customer Service Plan, A Final Report on the Criteria for Service Process Improvement*. An internal report for Drawn Copper Products (unpublished), Helsinki School of Economics and Business Administration.

Yin, R K. (1986) *Case Study Research, Design and Methods*. Sage Publications, USA.

APPENDICES

Appendix 1: Semistructured interviews

OCP

During the first phase of the study the researcher participated the strategy process 1995-1997. The researcher was an employee of the company 1990-1998. The list of interviews covers the retrospective sessions which dealt with the events during the DCPD strategy process and after that until 2002.

Duration (effective time) approximately 3 hours each.

Interviewee(former position)	Date	Subject
Development Manager, OCP (DCPD Manager)	22 Aug. 2001	DCPD strategy process in retrospect
BI Manager, OCP	10 Oct. 2001	Key events 1998-1999
BI Manager, OCP	8 Nov. 2001	Key events 1998-1999
Development Manager, OCP (DCPD manager)	17 Dec. 2001	DCPD strategy process in retrospect
Development Manager, OCP (DCPD Manager)	21 Jan. 2002	Key events 2000-2001, SPEED-project

KCI

The researcher participated the strategy process of KCIPS during 1999-2000. The researcher was a company secretary in Tepa-Mestarit Oy 1991-1999 before the establishment of the KCIPS division. The interviews were conducted during and after the strategy process.

Duration (effective time) approximately 3 hours each.

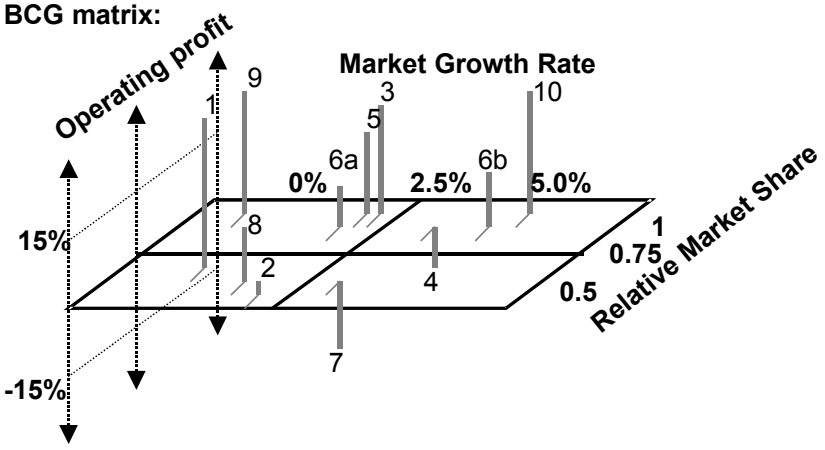
Interviewee	Date	Subject
General Manager, NOTEPA	31 May 1999	SBU analysis
Marketing Manager, KCIPS	31 May 1999	Division analysis
Controller, KNC	3 June 1999	BA control
General Manager (development) KCI HQ	3 June 1999	Business background, Corporate strategy
General Manager, KTP	7 June 1999	SBU analysis, Business background
General Manager, PTP	7 June 1999	SBU analysis
Controller, KCIPS	28 Feb. 2001	BSC implementation
Division Manager, KCIPS	29 March 2001	Strategy, BSC implementation
Division Manager, KCIPS	6 Nov. 2001	Strategy, BSC implementation
Controller, KCIPS	30 April 2002	Development process in retrospect
Division Manager, KCIPS	30 April 2002	Development process in retrospect

TYPE OF STRATEGIC ACTIVITY		ANALYZING	MONITORING	DEVELOPING	FORMULATING
Strategic Management Accounting	definitions by	Shank & Govindarajan (1993)[1]	Bromwich (1990)[2] CIMA (1996)	Wilson (1995)[3]	Ward (1992)[4]
	locus	HQ	Division / SBU	HQ	Division / SBU
	orientation	internal quantitative history	internal / external quantitative history	internal quantitative future	internal / external qualitative/quantitative future
	initiating function	accounting	marketing / production	accounting	bus.intelligence, R&D
	tools	ABC, TC, CPA, DPP, EVA	BSC, TdB, PP, DPMS, CFA	PIMS, SVA, BCG, GE, Porter matrix	Scenarios, SMS, SOM,
	Strategic measures	financial	financial / non-financial	financial	financial / non-financial
Main strategic controls[6]		diagnostic / boundary	diagnostic / interactive	diagnostic / beliefs	interactive / beliefs
Strategic context[5]		defender (reactor) cost efficiency	analyzer cost eff. / differentation	defender cost-efficiency	prospector differentation

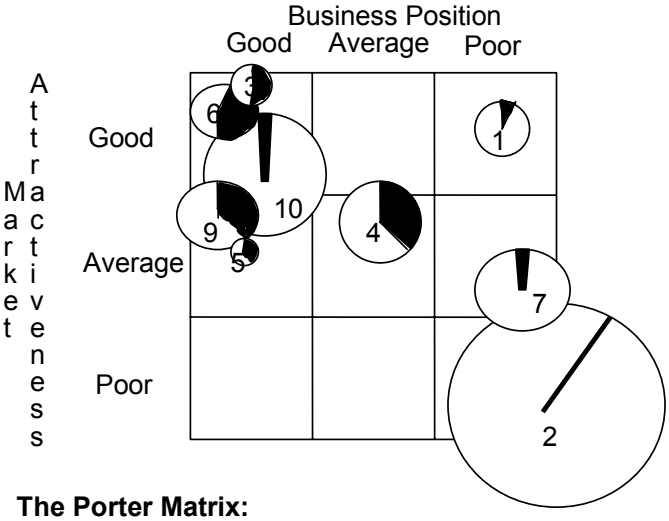
[1] *"…cost analysis in a broader context, where the strategic elements become more conscious, explicit and formal. Here, cost data is used to develop superior strategies en route to gaining sustainable competitive advantage."*
[2] *" The provision and analysis of financial information on the firm's product markets and competitors' costs and cost structures and the monitoring of the enterprise's strategies and those of its competitors in these markets over a number of periods."*
[3] *"Strategic management accounting is an approach to management accounting that explicitly highlights strategic issues an concerns. It sets management accounting in a broader context in which financial information is used to develop superior strategies as a means of achieving sustainable competitive advantage."*
[4] *"Strategic management is normally regarded as an integrated management approach drawing together all the individual element involved in planning, implementing and controlling a business strategy. Thus it clearly requires an understanding of the long-term goals and objectives of the organization (where it wants to go). There must also be a comprehensive analysis of the environment in which the business both is and will be operating (where it is). This analysis must include all the internal operations and resources (both existing and potential) of the organization but equally importantly, must cover the external aspects of its environment. This includes competitors, suppliers, customers, the economy, governmental changes, as well as legal and other regulatory changes, etc."*
[5] Miles and Snow 1978; Porter 1980
[6] Simons 1995

Appendix 3: The business portfolio of DCPD

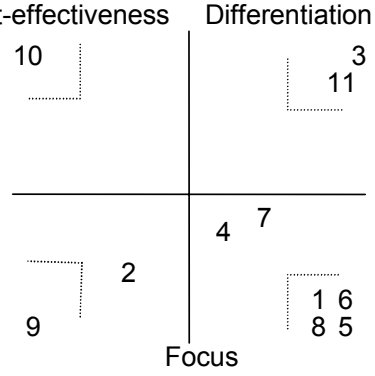
BCG matrix:



The GE Business Position Assessment Matrix:



The Porter Matrix:



Appendix 4: Examples of product costing

UNIT PRODUCTION COST, TRADITIONAL

MATERIAL OVERHEAD	2.00
DIRECT COSTS	5.20
TOOLS	0.60
ALLOCATIONS	2.00
CAPITAL COST	2.65
TOTAL	12.45

COST CATEGORIES
A=1.50
B=2.00
C=3.00
D=6.50

DIRECT COSTS

	time hours	yield coefficient	hour cost	unit cost
Machine 1	0.90	1	0.80	0.7
Machine 2	2.20	1	1.14	2.5
Machine 3	1.60	1	0.75	1.2
Inspection	1.00	1	0.60	0.6
Packaging	0.50	1	0.40	0.2
TOTAL				5.20

UNIT PRODUCT COST, ABC

PROCESS COST	4.20
MATERIAL OVERHEAD	2.20
CUSTOMER SUSTAINING COSTS	1.60
MARKET AREA SUSTAINING COSTS	0.60
ADMISTRATIVE ALLOCATIONS	1.05
TOTAL	9.65

DIRECT COSTS

	time hours	yield coefficient	hour cost	unit cost
Machine 1	0.90	1	0.40	0.4
Machine 2	2.20	1	0.90	2.0
Machine 3	1.60	1	0.60	1.0
Inspection	1.00	1	0.60	0.6
Packaging	0.50	1	0.40	0.2
TOTAL				4.20

Levels of profitability analysis:
Process, Product, Customer, Market area, Operating profit

Appendix 5: Strategic issues

The goals
- more efficient and focused utilisation of control and reporting resources
- operative efficiency
- supporting process thinking and operative management

control and follow-up of strategic actions
follow-up of strategic change

The sub-systems
operative planning and reporting
strategic planning
financial control and reporting
data processing system
communication
monitoring of markets, competitors and customers
strategic management
process management

The actions
requirements:
clarification of the strategy
determination of the strategic actions
the development plan of the control system
key success factors
global SBA study
operative
strategic
segmentation
monitoring of markets and market shares
monitoring of competitors and customers
profitability control based on process thinking, activity-based costing
global rod extrusion control system, world class mill
strategic management system
minimising the workload of present operative reporting, BCPS
implementation and integration of activity-based costing in production control system
implementing information technology in new communication culture
new system in reporting
operative efficiency

implementation of balanced scorecard in special products business unit

Tools and systems

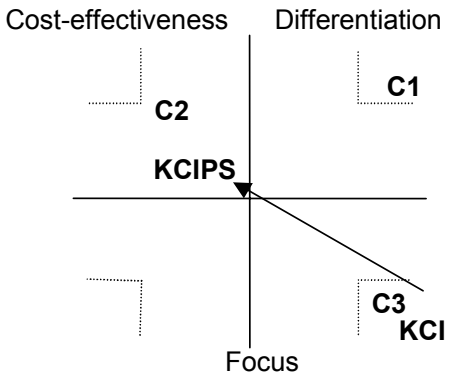
tools
CORE
    BPCS
    PRIMA
    OPUS CAPITA

systems
LOTUS NOTES
NEW SALES MODE (NSM)
STRIDE
SHIVA-ABC

modes of thought
ABC
    BSc
    PROCESS THINKING

Appendix 6: The relative position of KCIPS

The Porter Matrix:



The Value Chain:
Integration to Customers' Value Chain