

# **REVOLUTION BY EVOLUTION**

**Transforming international management in the established  
MNC**

Per Åman



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## PREFACE

This doctoral dissertation was written while Per Åman was a Ph.D. candidate at the Institute of International Business (IIB).

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Peter Hagström  
Director, Institute of International Business,  
Stockholm School of Economics



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For whatever flaws and inconsistencies I remain responsible.

Linköping in February 2003

Per Åman

First we shape our structures, and afterwards they  
shape us.

Winston Churchill

In this way, man first puts his stamp on the  
implements he makes, and thereafter the  
implements exert their influence on man.

Steen Eiler Rasmussen





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## Chapter 1

### INTRODUCTION

*Alfa-Laval; process issues for an evolving concept of international management; purpose of the study; outline of the book*

This study is concerned with the nature of transformative change in the established MNC. Specifically, issues focus on to what extent the change process transforming international management in the established MNC should be seen as revolutionary or evolutionary.

There is a strong tradition in a revolutionary figure of thought. In facing pressures for radical change, and if the firm does not get selected out on a population level (Hannan and Freeman 1977), the firm needs to display some form of adaptive capacity through an internal change process. A dominant line of strategic-, as well as organizational change theory posits a revolutionary process where a resilient or inert organizational form can only change through a punctuation process that is intense, dramatic, discontinuous and highly visible (Tushman and Romanelli 1985). The loss of meaning, power structure and efficiency in this situation (Miller and Mintzberg 1983, Fombrun 1986, 1989) makes it necessary to quickly formulate a new order. The period of change is by necessity short.

International management studies provide indications of an alternative view of the transformative change. Concerning the globalization of the MNC, it has been argued that the period of change is longer than 'short', and that there is order in the change process in the sense of phases (Doz and Prahalad 1987). It has also been argued that significant change may take place while the formal organization structure over longer stretches of time remains intact (Bartlett 1979, 1981). Iterative change over significant time periods,

preserving short term efficiency while moving towards a cross-border behavior has been accounted for. (Malnight 1996).

The focal issue that emerged in this study concerns the nature of the change process that produces radical and sustained change in content. What is the nature of the change process that transforms international management in the established MNC? Specifically, can an evolutionary change process produce radical change in content? If so, how should the evolutionary change process be understood?

### **Alfa-Laval**

In an intensive string of changes in the late 1980s, centering around a restructuring in 1986 of the formal international organization into global product divisions in the firm-specific form of Business Areas, the Swedish based MNC Alfa-Laval visibly and ultimately departed from the historical practice of multi-national orientation of international management. The underlying theme, permeating the organizational and operational practices, changed from multi-national to cross-border integrated. But how did those changes come into being? Did they in themselves constitute the revolutionary globalization of Alfa-Laval or did they represent a part of a longer, evolutionary process?

The experience of Alfa-Laval is an arena for studying transformational change of international management in general, and the cross-border management practices in their making in particular.

### **Process issues for an evolving concept of international management**

If the process of globalization triggered identifiable effects on international management practice, it also triggered a wave of reconceptualizing the notion of international management itself on the part of researchers in the field. The center of attention in this study is the nature of the firm-specific change processes on the road to a 'borderless' mode of managing international activities. While the general macroeconomic integrative developments constitute a background of an external context, 'international management' constitutes the content of the firm-level change process (cf Pettigrew 1985). I will eventually come to argue that the inherent properties of the reconceptualization towards time-dependent process aspects and dynamics have been addressed but that there remains room for contributions; empirically and conceptually.

The concept of international management as it emerges in research has evolved considerably, both structurally and in its attention to process issues. With the intensified competitive situation of a globalized business context issues of the dynamics of the international firm have come to the fore also in the academic community (e.g. Chandler, Hagström and Sölvell, eds., 1998). A reconceptualization of the concept of international management has taken place that goes beyond merely incorporating new environmental 'imperatives'. In the reconceptualization qualitative differences have emerged in how the task of international management is perceived in significant parts of the research community (e.g. the review by Martinez and Jarillo 1989, introduction by Bartlett, Doz and Hedlund 1990, Håkanson 1990, Doz and Prahalad 1991, review by Melin 1992, Parker 1996). The conceptual development, whether explicit or implied, added new elements to the task of management, combined into new images and models, and may be seen as reevaluating the fundamental perspective of what international management may be; leaving a unifocal, mechanistic, architectural and often ahistorical standpoint in favor of a broad conceptualization incorporating a cultural, interpretive perspective where processes over time are incorporated or even explicit.

The conceptual shift regarding 'international management' is the somewhat volatile and ambiguous theoretical background against which this study and its possible contributions should be seen. What intrigued me in all of this is not so much the structural or configurative aspects of the international management models but their, albeit sometimes underlying and implicit, time-dependent or processual nature. For example, competitive advantage in the market place is emphasized as a package of advantages bound in time as a window of opportunity; the emphasis on 'structural indeterminacy' indicates that organizational form or formal role distribution has limited temporal scope; the widely spread notion of an 'administrative heritage' (Bartlett and Ghoshal 1989) as a cultural factor influencing the cross-border integration process indicates that the firm's history is influencing its present, and future; processes critical to the 'hypermodern' international firm such as global scale innovation (Riddersträhle 1996), technology transfer (Zander 1991, Kogut and Zander 1992) and knowledge creation (Hedlund and Nonaka 1993) are processes over time, not ahistorical structural factors. Various aspects of the international firm, and of international management have increasingly been discussed in time-dependent, processual terms.

A research interest directed towards the process of becoming rather than towards that which is assumed to be made, focuses on process aspects of managing international

activities rather than structurally linking 'hypermodern' international management to environmental conditions.

The development of the general international business environment has posed new demands on the multinational firm that generally bring complexity, uncertainty and dynamism. The new circumstances of the international business environment put great demands on the sophistication of the managerial solution and creativity in theoretical work. It has, in fact, been argued that, on the grounds of the evolutionary nature of the international firm, the search for a 'stable' theory of the international firm is unwarranted:

*"It is therefore not even clear that the search for a stable organization theory of the MNC is warranted. Perhaps researchers ought to satisfy themselves with addressing an evolving agenda of managerial issues created by changes in success conditions for MNCs and in enabling technologies for their management?"*  
Doz and Prahalad, 1991, p161.

Despite the insights of their argumentation, I do not agree with their tentative conclusion in question marks. The choice is not between "a state or an elusive phenomenon" (ibid.). Instead, new theory building I think would benefit from acknowledging the inherent dynamic aspects of managing the complex international firm in an international competitive market economy. The 'stable' theory may be unwarranted, but the alternative is not necessarily elusive but a theory of the evolutionary nature of the firm. With a contemporary world characterized by a high pace of change, and competitive organizations characterized as structurally indeterminate, it makes more sense to study the dynamics of big and complex international firms than their evasive 'structures'. We still know more about structure than about structuring. We still know more about what we assume has become than about the process of becoming.

There is an increasing awareness that the international firm is not an ideal state produced, but an ongoing process of construction and reconstruction (Doz & Prahalad 1991, Melin 1992). Context matters (Clark 1999), and the differential backgrounds of international firms have historically lead to different structural organizational capabilities (Franko 1976, Chandler 1986), where the different organizational capabilities have shaped the varying agendas of each firm's issues on the road of change towards globalized, cross-border management (Bartlett & Ghoshal 1989). The varying and engrained 'deep structure' (Gersick 1991) of the already established international firm has been shaping, perhaps constraining rather than enabling, the alleged necessary transformation of international management from national responsiveness to cross-border integration (e.g. Porter 1986,



Bartlett 1986) in the face of demands from a globalizing general international business environment.

This firm-specific change is not just a realignment of content, but challenging issues pertain to the process of change and 'how' the cross-border integration came to be (Bartlett & Ghoshal 1989, Malnight 1996, Parker 1996). Studying this process has potential to lend insight into transformation processes of international management in the established MNC.

### *Globalization as cross-border integration of international management*

There has been much excitement about the notion of 'globalization' on the level of the firm. For my purposes here, the notion can be approached as an issue of geographic configuration of the assets of the firm, or as indicating an aspect of coordination or integration across-borderlines (cf Porter 1986). For an established MNC, already operating in a great number of countries, and possibly present in all parts of the 'triad' (Ohmae 1989), the process of 'globalization' will only marginally, if at all, result in pressures to increase international market presence. The process of globalization is not primarily one of bringing changes in the configuration of assets. Instead it is the other side of the argument that is at the forefront of attention. With global market presence already attained, 'globalization' will be an issue of increasing the coordination across-borderlines; of integrating the previously nationally defined operations. In terms of the two dimensions, the focus of this study is on the integration aspects. The key 'globalization' issue for this study is the firm-specific, cross-border integration change process.

### *Cross-border integration as a transformative strategic change*

The perspective chosen was to study a transformative strategic change process, in the shape of the firm-specific, cross-border integration process. By process study, I understand a contextual and longitudinal (Pettigrew 1985) approach trying to uncover the patterns of actions and events. An approach that accepts the embeddedness of levels of change processes and time-dependent multiple interdependencies between levels; accepting the 'messiness' of organizing life where content, process and context (cf Pettigrew 1985) are interdependent and accepting the mutual dependencies, the contextual embeddedness of any change sequence and the often iterative nature of organization development. In doing

so, the approach acknowledges the importance of history and the time frames often needed in order to understand radical change and development.

There is some disparity as to what the notion of 'process' or 'processual' stands for. In the movement towards and possible identification of a 'process school' (Doz and Prahalad, 1991) in international management, there are counterarguments that there are more considerations of managerial processes in the sense of addition to and fine-tuning of organizational structures, than of processes of change and development in this particular line of research (Melin 1992). The word 'process' has also lately been used to characterize an international organization structured around value-adding work flows in process-based structures (Malnight 2001). I will use the notion basically in line with Van de Vens (1992) third category of the use of the notion process in literature; as a sequence of incidents of events that describe how things change over time.

*"...a sequence of individual and collective events, actions, and activities unfolding over time in context..."*

. Andrew Pettigrew (1997, p338)

In this study, the nature of the change process in focus, and the specific change process is the cross-border integration process. The content of the change process lies in the firm-specific international management. A set of analytical categories together provides the immediate internal context. The macroeconomic globalization provides a background of an external context.

The change to integrated cross-border management may be seen as strategic in the connotation of 'strategic' as implying magnitude of the change, rather than strategic as distinct from organizational. On the other hand, in international management research, the 'strategic' nature of issues is often pointed out. The cross-border integration process has been seen as:

*"...a change of major magnitude in the strategy of the MNC. It encompasses changes of strategic direction, of management structures and systems and of organizational culture."* Doz and Prahalad (1987, p64)

The field of business strategy has brought to the fore the some-times unruly nature of business development, also in the face of a research interest in major strategic decisions. For example,

*"...strategic decisions cannot be easily pinpointed, because they are embedded in an amorphous, lengthy process whose continuity defies punctuation."* Pennings (1985,px)

Cross-border integration is likely to affect all levels and activities of the firm and its international management. It is fruitfully approached as a coherent, pervasive change with profound importance for the firm. I will conceptualize and approach the issue as a transformative change process, i.e. a change that brings the firm from one coherent structural configuration to another, equally coherent configuration (Levy and Merry 1982). Transformation may be understood as the rarely occurring periods of greater change intensity that fundamentally reshape the firm. For this study, it is a period of change that leads the firm from one distinguishable coherent international management configuration to another<sup>1</sup>.

*"Second order change (organization transformation) is a multidimensional, multi-level, qualitative, discontinuous, radical organizational change involving a paradigmatic shift."* (Levy and Merry 1986,p5)

In the context of an older, established MNC, the process of cross-border integration starts in a situation where there already are established structures and routines, where there are material value-adding activities in place, where there are organizational structures and administrative systems, where the identity already is constructed and its perpetuation routinized. The initial moments of cross-border integration in this setting break routines and triggers a process of change. Eventually, the process of change leads to a situation where cross-border considerations are pervasive.

The generalized issue is that of the process of transforming international management in the established MNC. Life in the established MNC is not only characterized by continuity (Pettigrew 1985a) or retention-propagation (Campbell 1965) but sometimes requires fundamental change. The cross-border integration of international management is arguably

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<sup>1</sup> There is no unambiguous use of the notions 'transition' and 'transformation'. Miller and Friesen (1984) employ transition, as does Malnight (1996) in international management. On the other hand Levy and Merry (1986) find transition to be one phase in a process of transformation. Although not a native english speaking person, I find transition in its connotations to suggest a transportation, a facelessness. Transformation also links forms and change in itself (although the word in itself presupposes the existence of form). I will use transformation as the term for an organizational change process linking two forms.

an example of such a transformative change and with an increased understanding of the phenomenon of the cross-border integration process, and a conceptualization of that change process focusing on its revolutionary or evolutionary nature, conclusions may be drawn regarding general propositions on the process of transforming international management in the established MNC.

### **Purpose of the study**

The general purpose is to contribute to our understanding of the transformation of international management in the established MNC. The first part of the study is empirical. The purpose of the empirical study is *to provide an account of a cross-border integration process of international management in the context of an older established MNC*. The foremost contribution intended here is to provide an empirical foundation of the change process, through which a cross-border mode of international management emerges<sup>2</sup>; to provide a record of cross-border management practices in their making.

A linked, more confined, subsequent empirical effort is to provide an account of the firm-specific historical context of the cross-border integration process in the form of the firm's history of international management, with the purpose of empirically locating the cross-border integration process in that firm-specific historical context and to ascertain the scope and importance of the cross-border integration process.

The second part of the study is conceptualizing. Here, the results of the empirical study are brought into dialogue with relevant theory. The purpose is *to conceptualize the nature of the cross-border integration change process*. This conceptualizing effort revolves around the revolutionary or evolutionary nature of the change process. The work evolved into four separate but linked discussions. One effort locating and framing the cross-border integration process in the history of the firm's international management, followed by three different readings and interpretations of the empirical study of the cross-border integration process aimed at characterizing the nature of the transformative change process. With theories brought in from general strategic change literature, organization theory, as well as works on organizational evolution, the ambition is to contribute to an understanding of the process of transforming international management in the established MNC.

## Outline of the book

I will end Chapter one with an outline of the remainder of the book.

Methodological considerations are addressed in *Chapter two*. A processual perspective with a single case, longitudinal field study is discussed as a feasible alternative to address the research issues. A combined real-time and reconstructive information collection process was employed. The sensemaking process of a rich empirical material was relatively formally structured employing several analytical techniques.

Chapters *three* through *eight* contain the basic account of the study of Alfa-Laval. The perspective here is one of a systemic, conceptually structured empirical investigation with inductive analysis. *Chapter three* contains a long-term historical overview, outlining the development of the firm from its foundation in 1879 to a point in time around 1970. Thereafter the period of cross-border integration is the focus of our attention in chapters four through eight, split into four chapters covering the period in different analytical categories, followed by an integrative discussion. The text first covers the development of selected aspects of social dimensions in *Chapter four*. Business, technology and operations developments are covered in *Chapter five*. Formal organization structures, domestic and international developments are the focus in *Chapter six*, while development of administrative systems is covered in *Chapter seven*. The final year of formal investigation was 1990. In *Chapter eight* the parallel accounts of the previous four chapters are brought together. The chapter starts with a comparison of the structural configuration of Alfa-Laval around 1970 and in the late 1980s. Then, the four development perspectives are brought into one conclusive image of the development patterns. Switching the perspective around, the formulated systemic perspective on the change patterns is reinterpreted for different key organizational actors: the role of functions, the national foreign subsidiary, the national foreign subsidiary manager, the product division and the parent company headquarter.

Having developed the empirical account of the integration process, and performed an inductive analysis of the overall change patterns, the approach shifts to engage in a dialogue with earlier research and a conceptualizing ambition.

First, the importance of the cross-border integration process is assessed in the light of the long-term development of the firm, in *Chapter nine*. The structural and temporal scope of the cross-border integration change process is defined, which subsequently is placed into a framework of the long-term development of the firm, generally and specifically.

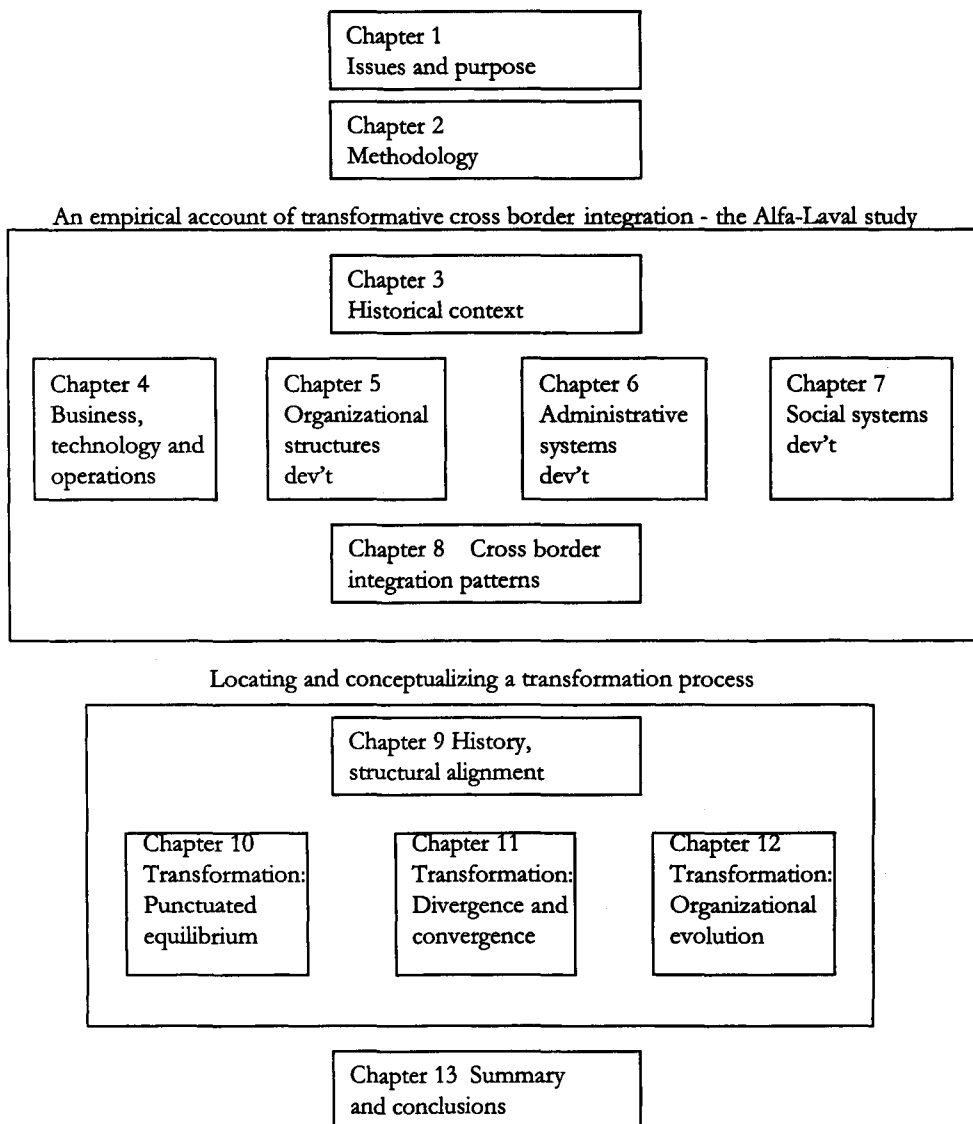
Having established the structural and temporal scope of the change process, and placed the cross-border integration process in the long-term development of the firm, a comprehensive interpretive examination of the cross-border integration of international management of Alfa-Laval is made. This is done in three subsequent readings of the empirical material, organized in the order of investigation as one leads into the next.

In *Chapter ten*, the punctuated equilibrium perspective is employed as a well established theory of strategic, transformative change for a first attempt at conceptualizing the empirical findings. The punctuated equilibrium perspective was in important respects found wanting in its power to shed light on the cross-border integration process, but profoundly stimulating in driving issues, which leads into another attempt at reading the material.

*Chapter eleven* begins with developing the metaphor of loose coupling - both in analytical levels and of individual change processes - in order to make sense of the observed changes and inferred change patterns. Armed with a new perspective, the cross-border integration was conceptualized as an organizational transformative cycle of divergence and convergence. This extended and ordered change process was eventually characterized as evolutionary.

In *Chapter twelve* the process perspective is further developed using organizational evolution theory, which eventually served as an theoretical grounding of the findings in Chapter eleven.

Finally, *Chapter thirteen*, summarizes the study and its findings, discusses the merits of the three perspectives employed to conceptualize the nature of the transformative, cross-border integration process, and seeks to formulate conclusions and implications.



Figur 1.1 Outline of the book





## Chapter 2

# RESEARCHING THE TRANSFORMATION OF INTERNATIONAL MANAGEMENT

*Influences in forming a realist, process research agenda; generalization; a spatial and temporal frame; information collection process; structure, interpretation and presentation of the collected information, summary*

The previous chapter developed the overarching purpose of the study as to formulate a framework for understanding transformation of international management in the established MNC, with the two operative purposes of, firstly, to provide an account of the cross-border integration process of an established MNC, and, secondly, to conceptualize that process. The aim of this chapter is to further develop the research approach and the methodology employed in realizing those ambitions.

Summarily, the empirical study takes a look inside one of the dominant actors in the globalization of the world economy - the big, complex and established international company - as cross-border management practices emerge through a transformation process from multi-national to cross-border oriented international management. Empirical material was primarily drawn from a longitudinal field study of the change processes in the Swedish company Alfa-Laval, over an extended period of time, both epoch and biographical. In Alfa-Laval, as a result of a broad range of actions and events, new elements of international

management were formed and implemented and ultimately came to replace a near century old mode of international management. With a mixture of real time and ex post information collection, realized changes were observed and change patterns were inferred for a broad array of elements of international management. Sense was made of the rich empirical material through an inductive, structured processual analysis (Van de Ven 1987, 1992).

The resulting structured narrative text subsequently formed the basis of an attempt to conceptualize the process of transformation of international management in the established MNC. The text was confronted with and reflected upon using different theoretical propositions regarding strategic transformation processes in a series of dialogues.

### **Influences in forming a realist, process research agenda**

The research approach evolved from a process perspective that became the basis of the empirical study, where the interpretation evolved into a set of readings of the empirical material in a series of dialogues. As a whole the study should be positioned as part of a realist turn (Clark 1999). In this piece I will develop those basic tenets, in its early influences and in later reflections.

There is a growing body of literature on longitudinal research methodology on organizations<sup>3</sup>, but from the point of the field study of Alfa-Laval rather late in time, as that work was conducted from 1982 through 1990. For the empirical work presented here important initial inspirations were to an extent Henry Mintzberg's early empirical studies (e.g. Mintzberg and Waters 1982) and discussions on methodology (Mintzberg 1979), but more importantly the then emerging processual approach based on discussions on methodology and presented research by Andrew Pettigrew (1985a, 1985b, 1987, 1988), and propositions on longitudinal methodology and analysis by Andrew Van de Ven (1987, 1992). Later methodology discussion has been important in increasing the awareness of a process approach, but obviously not in influencing the field study.

Armed with the notion of strategy as pattern in a stream of actions (Mintzberg 1978, 1982), Henry Mintzberg directed and participated in a series of studies in the 1980s. The

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<sup>3</sup> E.g. *Organization Science* (1990), special issue on longitudinal field research methods, Van de Ven (1992), *Scandinavian Journal of Management* (1997), special issue: Reflections on Conducting Processual Research on Management and Organizations. There is a most interesting and enthusiastic account of processual approach, employed in marketing research, in Andersson (1996).

Steinberg study (Mintzberg and Waters 1982) presents the development of the company in a series of waves over time developed from recording the effects of a multitude of actions. Recording actions has several distinct advantages. Many of them are relatively undisputable as 'facts', they are a kind of reality. Asking boundedly rational managers to relate events passed over a change sequence, one is left facing faded memories including selective forgetfulness, ex post individual rationalizations, socially constructed politically correct statements, career saving or - promoting glorifications and in the worst case, blatant lies. The winner does write the history which is a fundamental issue in any study with a time scale. From Mintzberg (1978) I picked up a guiding research principle of studying the transformative cross-border integration process within the tradition of strategic change as a realized 'pattern in a stream of actions'.

In a methodological reflection, Mintzberg (1979b) argues for a "*direct method*" of conducting empirical field studies. He basically argues that the doctoral student should be thrown into deep water to see if he can swim - an analogy that somehow appealed to me as adequate. The direct method is issue- and empirically driven, with the focus on understanding the real issues as they appear. With its focus on drawing inferences from an unstructured managerial reality the 'direct method' bears some resemblance to the grounded theory approach (Glaser and Strauss 1968). A key point is intimate knowledge on the part of the researcher of the phenomenon in question.

That latter point is a recurring theme in discussions on process research (Langley 1999); an often exploratory stance in field work commentaries where structure is made rather than received, theory generated rather than tested and a focus on language formation rather than depiction<sup>4</sup>.

*"It is in the precarious balance between the controlled and the uncontrolled, the cognitive and the affective, the designed and the unexpected that fieldwork finds its distinctive vitality and analytic power"* Barley (1990,p220)

When studying organization development and strategic change from a political and cultural perspective, Pettigrew (1987) suggests asking research questions about the three analytical categories of content, context and process, and the interconnections between the three. Any evolution over time may be thought of as changes in content, as well as processes of change; both of which take place in a changing context. *Content* is the particular area of change under study (for example, Pettigrew 1985a), the 'what' of a

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<sup>4</sup> See Brunsson (1981), my translation from Swedish.

change. *Process* refers to actions, reactions and interactions from various parties; the 'how' of a change. The *context*, which has the potential of addressing the 'why' of a change, is divided into outer and inner context, where the inner context refers to the structure, corporate culture and political context *"through which the ideas for change have to proceed"* (ibid.,p657). In the Alfa-Laval study the research issues were approached with a process perspective, building much of the methodology on a longitudinal and contextualist view, inspired by that of Pettigrew (1985a,1987).

Pettigrew sees the transformation of firms as an iterative, multilevel, and continuous process, with outcomes not only determined by rational or boundedly rational discussions but also by political and cultural processes.

The political and cultural micro-processes are for the most part outside the scope of the Alfa-Laval study, which focuses on the realized effects, i.e. on the patterns of continuity and change that are partly the outcome of political and cultural processes.

Fundamental to Andrew Pettigrew's research propositions is that sound theory must recognize the organization as a continuing system, with *"a past, a present and a future"* (Pettigrew 1987,p657). The process itself is seen as a continuous and interdependent sequence of actions and events. Pettigrew (1985) argues that the interest should lie in multilevel theory construction.

*"Strategic management questions posed in the language of becoming rather than of being demand detailed, comparative and longitudinal data covering long periods of time."* Pettigrew (1992,pp5)

Andrew Van de Ven has discussed a structured processual method in a series of works. Van de Ven (1987,p330) postulates four requirements for the undertaking of research on the process of change:

1. a clear set of concepts about the object being studied
2. systematic methods for observing change in the object over time
3. methods for representing raw data to identify processual patterns
4. a motor or theory to make sense of the process patterns

The points have parallels; Pettigrew (1985b, 1992, 1997) has a very similar list in his discussion of processual research<sup>5</sup>. The first point - *concepts in use* - concerns a set of linked categories for the management systems of the multinational firm, for the development of comparative information over time. These categories may be traced over time and observations of change and continuity made. In the case of the empirical study reported in this book, the 'content' of the change is captured in a set of categories of business and operations, organizational systems, administrative coordination and social systems coordination.

Regarding the second and third points we should note Van de Ven's definitions of change and process of change. Change is "*an empirical observation of differences in time on one or more dimensions of an entity*" (Van de Ven 1987, p331), whereas the process of change is "*an inference of a latent pattern of differences noted in time*" (ibid. p331). Change is the more tangible and observable notion from which patterns may be inferred; processes of change are not directly observed. We should also note the additive quality of the argument; we must first identify the changes over time in defined categories. From these observations we may infer patterns. For Pettigrew (1985) this is the horizontal dimension of the analysis. The process being studied in this book is the transformation from a country centered management to an internationally integrated management, for which continuity and change in a series of contextually embedded categories was explored and interconnectedness between categories established.

The "*motor, or theory to drive the changes*" was as a working assumption seen as tensions between structural categories. Ancestry is found in the stepwise development models of the international business tradition towards an increasingly 'higher' and more complex form and mode of international management, including later developments, where the change from one configuration (stage) to another constitutes a transformation period.

#### *Some ex post remarks on conducting process research on international management*

Accepting the time frames involved in fundamental organizational transformations, the complexity inherent in the diversified mature multinational business, and the fluidity of change process, one is as a researcher engaged in a search for a phenomenon that at times

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<sup>5</sup> Pettigrew (1987, p655) uses the term 'contextualist and processual', whereas Pettigrew (1985a) employs 'contextualist' alone to encompass both vertical and horizontal dimensions. By 1997, his preferred term is 'processual' (Pettigrew (1997)).

seems way out of reach. The material quickly runs into hundreds of pages of interview protocols and yards of shelving space, the description is endless and the analysis seems futile. Reading methodology papers on longitudinal field research provides some comfort as many comment on this particular feature of the research process. For example a comment by Andrew Pettigrew:

*"For some there is no release from the overwhelming weight of information...The result is death by data asphyxiation - the slow and inexorable sinking into the swimming pool which started so cool, clear and inviting and now has become a clinging mass of maple syrup."* Pettigrew (1990)

For such reasons the longitudinal field studies risk, unfortunately, continuing to be a rare species. The time frames, ensuing costs, difficulties and uncertainty of the research process make them a high risk research strategy. If we add the well founded ambition of Van de Ven (e.g. 1987,1992) to work with real time rather than reconstructive studies yet another level of uncertainty is attained as the continued existence of the research arena is not assured. Methodology discussions on longitudinal field research have addressed the level of structuring and precision in the research methodology that may be necessary to produce a greater amount of process results. For example, Pettigrew's (1985b) suggestions for team research is well founded. Simply and bluntly put, the doctoral student rarely has the theoretical insight or the methodological experience necessary, while the professor is a high-cost 'unit' with limited time available. A feasible way to address this difficulty may be to work with what Pettigrew (1985, 1997) calls vertical teams, or to start the research process with the realized end result and trace back in time the series of changes leading to the identified outcome. Another avenue is the rather strict structuring of observations regarding change and change processes suggested by Van de Ven (1987,1992) or the formal mapping of strategic change employed by for example Mintzberg and Waters (1982) in the Steinberg case study. This is a feasible way around 'data asphyxiation', but requires that the theoretical home work be done in order to avoid iterations in the research process. It is this way of relatively strict structuring, mapping and graphics that I employed to inductively make sense of the rich material of the Alfa-Laval study.

### *Depiction and conceptualization*

In international management, as in general social sciences research, there is a wide range of approaches from the very particularistic, descriptive, empirical and inductive to the

deductive, seeking laws and generality. Harré and Secord (1973) argue that these represent two different levels of knowledge and discourse. The first level order is made up of the 'lived experience' of actors in social settings. With Brunsson (1981), the research ambition is to 'depict' or mirror the empirical reality, unreflected and immediate. Second order knowledge, is reflective on, rather than embedded in social situations. Its purpose is to explain human experience post hoc. Second-order knowledge contains a range of abstractions, from that connected to a specific piece of social reality, to the very general, applicable to different settings; 'scientific theories'. There is an inherent conflict between demands for generality and empirical accuracy (Weick 1979), but the road followed here has not been one of choosing side but one of dialogue and 'middle ground' (Porac 1994). This middle ground is such that it is

*"recognizing that interorganizational networks are uniquely human (and thus symbolic, purposive and political) domains, but also recognizing that abstractions, even imported abstractions, are useful heuristics that raise interesting questions that more particularistic frameworks overlook."* Porac (1994, p456)

The ambition of this study is to provide an account of events in a particular empirical context, Alfa-Laval, as the international management of the firm changed from a national orientation to cross-border management. Ideally this account should depict the lived experience of the people of Alfa-Laval with some immediacy. With that account provided, the ambition is to provide a conceptualization of an abstract and more general nature.

### *Mutual causality*

The analysis is structured interpretatively and the aim of the analysis is to arrive at an interpretation that makes sense; to arrive at a coherent internal logic in the framework developed, but driven as it evolved in the research process by a coherence with the piece of reality pictured in the narrative text of the Alfa-Laval study.

With the realists, the aim is to uncover the generative mechanisms (Tsoukas 1994), which are attributed with 'causal power'. To work with a notion of causality that is more complex than objectivist linear cause and effect has grown with the early process approach. One influence was Pettigrew (1985a), who is concerned with the relationship over time of the content of the studied process and the context, which in his view furnishes the potential answer to the question 'why' the events took place as they did. In a sense, causality lies in the temporal (Clark 1999). The processual and contextual analysis requires a

certain view of how the vertical levels interact, or are interconnected, over the process. The context must neither be treated as a descriptive background, nor must the relationship between context and observed process be reduced to simple determinism. Rather, processes are both constrained by structures and shape structures; context and structure are not just general backgrounds or barriers to action, but *"essentially involved in its production"* (Pettigrew, 1985a, p657). It is a central proposition in the processual approach. In line with these arguments is Miller and Mintzberg's (1983, p63) discussion on causality within a 'synthetic' perspective, where the objective is to search for networks of causation, not unidirectional causation between pairs of dependent and independent variables, nor even multiple forms of causation.

*"There are no purely dependent or independent variables in a system; over time, everything can depend on everything else."* (ibid., p63)

The source of any observed change may be external or internal. Change in complex organizations may often be triggered by (external) events.

*"Though it is often possible to spot an initial 'kick' that sets a system moving in a particular direction, it is important to realize that such kicks are not really the cause of the end result. They merely trigger transformations embedded in the logic of the system. Thus we could say that the Watergate burglary caused the downfall of the Nixon presidency only in the sense that it set in motion processes and problems already embedded in the system."* Morgan (1986, p253).

Thus an ambition of a study with a processual perspective, or for that matter for a study with a realist perspective, would be to uncover the 'logic in the system' in which the transformation process lies embedded. No doubt the kick is more easily observed than the logic. The kick may be a new competitor's entrance, a new technological solution etc., or it may lie within the process of 'globalization'. But why does the kick lead to an organizational transformation? Why does the organization act in such a way? The answer to such questions entails uncovering the logic.

## **Generalization**

The important generalization lies on an abstract level, in the applicability of the conclusions on the nature of the process of transforming international management in the established



MNC. With the use of theories from general organization theory, from strategic change theory as well as from studies of international management my ambition is that the conclusions will have some bearing on that specific level of generality. My hope is that the theories chosen used should not be seen as eclectic in a demeaning sense, but appropriate for the evolving research issue agenda.

The results may have a bearing in a more direct, representative sense, but depending on whether contextual conditions for the generality are appropriate. The phenomenon in focus is the process of cross-border integration of international management in an established international firm. The particular arena in which the study is made is Alfa-Laval. As international management in itself is a multidimensional concept and the envisioned change process a comprehensive one, the phenomenon is complex. A single firm was chosen as research site. The case study is often argued to be suitable for complex research issues (Yin 1981, 1984, Eisenhart 1989), where the aim is theory generation rather than theory testing.

Deriving the research cases within one firm has advantages and disadvantages. There are issues concerning the generalizability of the findings. The general value of the findings must foremost be found in the theoretical discussions through the possibility to learn from the logic and to apply that learning to other areas or settings. Generalization of the results of this type of research must move from the particular to the abstract and then to another particular context. Empirically, case studies always tend to be rather particularistic with some, but contextually bounded possibilities for representative generalization. The ambition in this study is to bring the particular in dialogue with conceptual structures and thus deliver results in the abstract.

The methodology allows for controlling a number of firm-specific factors regarding history, national- and company culture, information systems and management style etc. The context in which the international management systems were studied is one single multinational firm. Much of the context remained stable over much of the period. Ownership was essentially the same, general business mission had the same formulation, core product technologies and served market segments had not changed. Within the frame of a reasonably stable context, major strategic and organizational changes were made, affecting most aspects of the management systems. One can argue about the pros and cons of a stable context. It provides less scope for exploring linkages between some contextual changes and the management systems, but makes the observed changes stand out as figures from the ground. It may make the (inter)relationships between elements of the management systems a more interesting arena than the relationship to the context.

The perspective is ultimately on the international firm as a whole, and thereby also adopt a headquarters perspective in the respect that the corporate management is ultimately responsible for the activities of the firm, including the development of the international management. The empirical study is one of corporate change. A desire to study the management systems from a product division or a subsidiary perspective had entailed different research designs. However, when discussing the role changes of the corporate, division and subsidiary offices, the perspective has been turned around to explore the development from the subsidiaries', as well as the product divisions' point of view.

Limitations pertain to the single case methodology used and the way the analysis evolved. The perspective is longitudinal, contextual and intracompany, and the empirical material developed from a firm-specific study. This enables conclusions to be drawn regarding issues within the company over time, relating these to changes in the context, while ruling out the possibility of drawing intercompany conclusions. An intercompany comparison in an industry setting would possibly have provided greater potential for exploring issues of managerial choice and discretion; a central point of debate concerning organization development. Such an orientation could also be seen as a population level study where issues concerning the selection of various forms of management could have been observable (Hannan and Freeman 1977, 1989). Observations from other empirical efforts with similar ambitions (e.g. Doz and Prahalad 1987, Malnight 1995, 1996) have been added to gain an intercompany understanding but generally conclusions from the empirical study must be drawn within the intracompany perspective.

Given the single-firm context and the analysis performed, a number of limitations pertain to the representative, immediate generalizability of the findings. Firms with other sets of contextual factors, in other circumstances, will find limitations in the applicability of the empirical study alone.

1 - The firm has a *long history of international business*. Younger firms may have less developed company cultures as well as established structures and thus experience less organizational inertia. Internationalization patterns of younger firms have also been identified as distinct for this group of firms (Nordström 1991, Lindkvist 1991). The issues at hand in this study are specific to firms with a long history of foreign involvement and establishment.

2 - The firm has a very *high level of international dependence* in terms of sales and production. This may be assumed to increase the motivation to rationalize activities across nations as the home market is too small to withdraw to. Firms with proportionally larger home

markets may find it logical to adopt a defensive international strategy, focusing on home market and domestic market domination.

3 - The firm is a *market leader* in many of its product - markets. Dominance is often associated with limited sensibility to external pressures and consequent inertia for internal change. Organization change is often discussed in terms of adaptation to environmental change, a line of thought with limited relevance in the situation of a strong market leader, who to a significant extent, it can be argued, can choose its environment.

4 - The firm has its traditional bread and butter businesses in *mature markets and technologies*. Firms in emerging industries, or early life cycle stages, experiencing higher environmental uncertainty and pace of technological change, need coordination and control systems that accommodate for these conditions.

5 - The firm is *headquartered in Sweden*. To the extent that cultural norms and values influence coordination and control systems, this must be taken into account when generalizing beyond Swedish MNCs. We have reason to expect some qualities to be specifically tied to Swedish firms, such as the informal management style (e.g. Hedlund and Åman 1984). There are structural elements in the Swedish milieu that indirectly have managerial consequences, such as the very high personal income taxes and lack of English speaking schools outside Stockholm, making it difficult to promote non-Swedish managers to top positions at a headquarters located in Sweden.

6 - The firm is not based on the availability of natural resources, it is "*footloose*" in the sense that its products may be developed and produced in places other than Sweden, in contrast to for example the mining or forestry industries.

### **A spatial and temporal frame**

A processual study has a multilevel, or vertical dimension, and a longitudinal or horizontal dimension, and focuses on interconnections over time (Pettigrew 1987). The vertical dimension refers to interdependencies between higher and lower levels of analysis, such as the effect of macroeconomic changes on the firm's production system and on the management systems. The horizontal focuses on "*sequential interconnectedness*" (Pettigrew 1987) over time. A comprehensive way to operationalize the processual study is to picture it as placing a 'spatial and temporal frame' around the phenomenon in focus (re Barley 1990).

The content of the change process in focus is the international management of the firm. Accepting the multidimensionality and the possibility of differing change trajectories for various categories of international management an objective is to reflect the continuity and change of a set of categories of international management, as well as the possible interdependencies between the categories and trajectories in shaping and eventually co-producing the cross-border integration process. The process of cross-border integration of international management in the established MNC emerged as a change process of considerable complexity and possible longevity. While the construction and reconstruction of each element of the firm's international management is embedded in an intrafirm processual context, the transformation of international management of the firm is itself embedded in the general reconstruction of the international business environment. An understanding of the transformation of the firm's international management requires an understanding of the parallel, but not necessarily synchronous, evolution of the varying embedded processes. The focus of the empirical study lies in the recording of the events that make up the change and transformation of international management in the century old, Swedish based MNC Alfa-Laval over the 1970s and 1980s.

An overview of the notion of international management presents an evolving arena of elements, models and perspectives (Martinez and Jarillo 1989, Melin 1992, Parker 1996). For the empirical study, I was in need for a set of categories of international management, traceable over time; general descriptive and analytical categories that could be followed in their development of continuity and change, that could serve as conceptual tracks (Van de Ven and Poole 1990).

The concept of international management has evolved from a rather narrow, planning and control oriented headquarters perspective towards a broader, more reciprocal and differentiated network perspective. My building of the international management categories started in a traditional fashion, with coordination and control categories employed for example by Leksell (1981) - organizational, administrative and social systems with respective subcategories. Hedlund and Åman (1984) employed categories close to Leksell's (1981) in content but without the formal threepartition. The headquarters perspective is amply reflected in works such as Doz and Prahalads (e.g. 1981) proposal for international management 'tools', or in Haspelagh's (1982) 'influence system'.

This latter notion of an 'influence' has, however, a more espoused perspective of influencing behavior in the organization than the others. I became interested in the

receivers end of the chain, and turned the attention around, from viewing international management from a top management, headquarters perspective, to regard the issue as one of a *context for individual action*<sup>6</sup>. Such a context is a holistic notion, 'surrounding' the individual, inspiring as well as limiting action. Whether intended or not, the perceived context provides a local rationality for the individual's action.

The resulting categories employed as a research heuristic as well as a tool for structuring the collected information is based on four categories. First, *social structures and processes* contains information on the development of managerial positions and individuals that have 'inhabited' these positions, career paths etc. Some information concerns language and corporate culture issues, but the brunt of the material is more instrumental. Second, *business, technology and operations* is concerned with the development of the value adding operations, and the development of the technology and product development. Third, *organizational structures* contain the development of formal organization structures with discussion of the informal processes contained within the formal structures. Fourth, *administrative systems* is concerned with the development of the administrative coordination of the international activities.

#### *A temporal dimension of the frame - choice of time period*

Concerning the time period, the interest lies in a temporal excision of the continuous flow of actions and events that constitute the life and times of the MNC, and to link that excision to long-term development. Empirically, it was necessary to temporally define the cross-border integration process of Alfa-Laval and to relate that change process to the long-term development of the firm. Events combine into relatively short episodes of change that may be part of an epoch. Epochs form part of the history of the firm. Seen from this perspective the Alfa-Laval study provides an account of an epoch, placed in the history of the firm. The ambition is thus to link various aspects of change over time.

The specific epoch under study is a transformation process of cross-border integration, a period of change when an organizational configuration is (re)formed (Levy and Merry, 1984). The transformation process is itself embedded in the long-term history of the firm, as well as consisting of shorter, and often more visible, change sequences. Specifically, the multi-national organization form is assumed to be followed by a cross-border form, by way

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<sup>6</sup> There is a parallel here to agency theory and the individual's ability to reflexively interact with a structural context.

of a transformation process. This simple model of the development of the cross-border firm as a transformation process has guided the design of the study as well as the interpretation of results. In this study the proposed development model has served as a search heuristic; providing a basic framework for developing research issues and methodology, and as a background for evaluation and interpretation of findings.

An emerging focus was to view this integration as a whole, i.e. as a complete cycle of change from initial events to some form of completion. A transformative cycle of change is a period of producing 'something out of nothing'<sup>7</sup>. In the end, something has been realized, which in the case of this study is pervasive cross-border oriented international management in the MNC. At the outset there is nothing of that end result to be observed. The cycle of change links 'nothing' with 'something'.

With the ambition to study a complete change cycle, the event time (Clark 1999) of the Alfa-Laval reality has defined the temporal scope of the studied transformation process. The specified starting and ending points of the intensive study are, though not arbitrary, a matter of judgment. The starting and ending points for each element of the management systems, and for each contextual factor, are empirically derived.

Andrew Pettigrew (e.g. 1997) has in his writings increasingly argued for being output oriented, i.e. to work slightly in a reverse engineering mode and study the origins of a known end result. With this perspective the researcher is engaged in a search of the origins of an assumed or identifiable end result of a change process. It is an academic form of reverse engineering. The end result of the change process in this study is preposited in the structurally coherent cross-border orientation of international management. The origins of the cross-border oriented firm are assumed to be found in an organizational transformation process, with its beginning in the point in time when the international management broke away from a coherent configuration, and ultimately in the long-term development of the firm. The immediate organizing process having produced the cross-border international management was assumed to be a transformation process. In accordance with these deliberations the temporal frame was firstly empirically identified and located temporally in its end, by identifying the first moment in time a structurally consistent set of cross-border based international management practices was observable. Secondly, by searching back in time I identified a point time where a structurally consistent set of multi-national international management practices was identifiable; without anomalies but with signs of beginning change. The process of change being studied was thus framed.

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<sup>7</sup> An expression I borrowed from Kelly (1994).

## Information collection process

The foundation of the research lies in the empirical study of the transformative cross-border integration process of international management in Alfa-Laval. I will here detail the information collected and the process by which the information collection took place.

### *Choice of research site*

The research site complied with criteria established and emanating from the research questions:

1. The research site should indicate a change in focus of international management practice towards cross-border orientation.

2. It was felt to be an advantage if this transition is set in a reasonably controlled context, to furnish a pseudo - experimental situation. Alfa-Laval provided a reasonably stable context. The core product technology was mature, the industry had a stable, multinational, oligopolistic structure, ownership has remained within the same sphere.

3. A related diversified company (Rumelt 1974) would provide an opportunity to explore the criticality of related product diversification on international organizational solutions. The extremes of unrelated diversification and single business firms beg the issues. A study of the 'globalization' of a single business operation may be beneficial in relating context to the management systems. Given the complexity of the research issues one could argue that a study of a single business firm would generate a simple model, which could subsequently be used on a related diversified firm, and a more complex setting. The advantage is somewhat academic in a longitudinal study. Acknowledging the logic of the argument, we have to accept the dynamism of growth and product line broadening resulting in the product diversification of single business firms. Successfully incorporating new product lines, whether internally developed or acquired, is a major organizational challenge for industrial international firms. At the other extreme, a study of a corporation with unrelated businesses makes it necessary to make separate, and thus unrelated, studies at each business unit. Alfa-Laval was related constrained diversified (Rumelt 1974), with increasing product diversification over time.

The familiarity with the company on my part<sup>8</sup> was a factor in focusing attention on Alfa-Laval as a possible research site. But it was not a convenience sample. The contacts already established helped in allowing for the quality of access needed.

### *The Alfa-Laval study*

The results of the empirical study are ultimately founded on a high quality of access and a long-term involvement with the firm. This enabled a study with a focused but evolving research agenda, with multiple means of information collection conducted both in real time and as reconstruction.

From a first participation as an observer at a Top Management Conference in 1982 to a review of a case narrative in 1991 I had, in periods of varying intensity, intermittent but recurring contact with, and visits to, the company. Over this time, a flow of primary information collection was complemented by secondary information searches.

The real time material begins in 1982. Descriptions on the developments before 1982 are in their entirety reconstructed from earlier studies, documents and interviews. From 1987 I worked with an explicit longitudinal effort to map the process of change, a growing awareness of processual research methodology and a deliberate focus on understanding the 'globalization' process of international management practice. Partly building on earlier material, the longitudinal Alfa-Laval study that forms the empirical basis of this thesis was essentially made between 1987 and 1991. The information was collected, the material structured and written up, and submitted for review academically and by the firm. It remained unpublished but enjoyed some circulation in draft form, thereby providing some usefulness to the academic community<sup>9</sup>.

I remained throughout in the role of an outside researcher. The relationship between myself and the management of the company included one way information provision on the part of the firm and dialogue, with some instances of formal feedback to the firm<sup>10</sup>, for example an address on the ongoing restructuring process to the Alfa-Laval Top

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<sup>8</sup> This familiarity emanated from the study of foreign subsidiary management reported in Hedlund & Åman (1984).

<sup>9</sup> E.g. Melin (1992), Zander (1994)

<sup>10</sup> The research report of Hedlund and Åman (1984) was an example of such a feedback, but with a cross-sectional intercompany comparison of international management practice.



Management Conference in the fall of 1987. As the research issues evolved and became refined I was granted further access to individuals or archives on several occasions.

The information collection revolved around three broad intensive waves of field information gathering, each with its particular characteristics; 1982/83, 1987 and 1990. From 1987 to mid 1991 there was a steady information flow. When Alfa-Laval was acquired by TetraPak in early 1991 the cross-border integration change process had seen its completion, and most of my writing up done.

The structured narrative text that resulted from the empirical study, provided the basic material for conceptualizing the transformation process. An early sketch of the loose coupling connection (in chapter 11) was drawn in november 1993 for an ESSEC conference on 'Organisational Capabilities and Internationalisation Processes' and later presented at the EIBA annual conference in December 1996. Eventually I came to organize the conceptualization attempts into a series of 'readings' of the narrative text.

#### *Information collection in the empirical study*

The material that provides the information base of the empirical study is broad and multifaceted. Primary information in the form of interviews and contemporary and archival company documentation was supplemented by secondary information from such sources as related empirical research, the commissioned company history and business press articles. Contacts ranged hierarchically from the executive management committee, via product division management and subsidiary managers to local functional or product line managers and shop-floor workers. It ranged in formality from the prebooked and scheduled interview to the odd lunch with CEO Harry Faulkner and COO Lars Halldén as well as informal chats with desk clerks in the market companies, or, which I found very useful, talks with experienced secretaries. It ranged in 'seclusion' from classified strategic plans, via internal periodical economic report structures and organization charts to open product line descriptions and public business press articles.

All of these contacts and pieces of information have contributed to my understanding of the issues, and have influenced the interpretation, albeit in ways that are not always possible to reconstruct. As much as possible, the informal inputs were ex post put on paper.

The methodological vehicle for the waves of information collection in the early and late 1980s was a series of interviews. These booked interviews should be seen as the skeleton of the information collection process; a basic structure of information gathering points.

Within the company, information was collected at the parent company/ corporate management level, selected product divisions (or similar), and selected foreign subsidiaries. For the collection of information on international management practice it was necessary to make choices regarding research sites within the company, due to the size, complexity and number of organizational units within the firm.

The main rounds of information gathering all had their respective characteristics. The 1982/83 information was part of a study of the management of foreign subsidiaries in four firms of Swedish origin. The results of that study were separately reported in Hedlund and Åman (1984). The 1982/83 study was used as empirical base for the longitudinal study in the present volume. This base contained both formally structured information recorded in interview protocols and other material, and of course the personal contacts as well as the memory residing in my mind; however feeble as a source of information. It should be pointed out that in a sense it was the file and not the case description that appeared in Hedlund and Åman (1984) that was used for the longitudinal project. In 1982, contemporary research issues at that time focussed on the nature of dyadic headquarters - subsidiary relationships.

The individual respondents were chosen on the basis of the priorities of the researcher(s) and after discussions with management. The criteria were as follows:

- to conduct interviews at the three levels (parent company, product division and foreign subsidiary), at selected units
- to interview the general manager, the financial controller and product managers of the product division or subsidiary

After a dialogue with the parent company executives, the choice of national foreign subsidiaries fell upon the US, West Germany and Great Britain. These companies represented the older and larger, core subsidiaries. They were all established in the 19<sup>th</sup> century, they had a full set of value activities very similar to and in some ways exceeding the scope of the parent company, and had all historically contributed to the development of firm, not only financially but also in technology development. They had all been entrenched in their respective local environments for a long time and provided opportunities to study the relationships between subsidiaries and parent company, the possible strains and change processes going on at that point in time and to provide good scope for understanding the tensions and development in the international management of the firm. The firm had at that point a product/customer divisionalized organization, based in Sweden, in the form of so called Business Groups (this will be expanded in the upcoming chapters). The three Business Group headquarters were visited, although only

the Business Group Agri management was formally interviewed. The industrial division Marine & Power Engineering was included in the series of interviews, as were two Agri divisions.

Table 2.1. Formal interviews conducted at Alfa-Laval in 1982.

	Sweden	BRD	GB	USA	total
PC	2	-	-	-	2
PD	3	-	-	-	3
Subsidiary	-	3	4	6	13
Total	5	3	4	6	18

A first discussion with corporate management singled out which organizational units and respective managers to visit in terms of product divisions and market companies. Individuals within the selected units were chosen in cooperation with the managers in charge. Respondents were assured confidentiality. The time spent with each respondent varied greatly and ranged from one to six hours, sometimes stretching out into lunch or dinner.

In 1987, another series of formally booked interviews provided a similar skeleton structure. The foreign subsidiaries in Great Britain, West Germany and Holland were visited. The ambition was also to revisit the US foreign subsidiary, however there was relatively complicated ongoing restructuring in the US company and access was denied. Access was granted to four product divisions, called Business Areas at that time, of Food Engineering, Thermal Engineering, Agri and Automation (see further in upcoming chapters). They represented a relatively wide spectrum across the activities of the firm ranging across components to systems, across customer groups as well as representing both the old and the recently developed. In total, eight organizational units were visited apart from the parent company - by now reformed and called group headquarters. The total number of formally booked interviews in 1987 was 24. Four at corporate HQ, eight at SBUs and twelve at subsidiaries. Interviews were conducted from February to August 1987.

Table 2.2. Formal interviews conducted at Alfa-Laval in 1987.

	Sweden	BRD	GB	Hol	total
HQ	4	-	-	-	4
BA	8	-	-	-	8
Subsidiary	-	6	3	3	12
Total	12	6	3	3	24

The purpose of the interviews was twofold: to gather documents and 'facts' about the developments, and to understand the perceptions of respondents on the research issues. Notes were taken at all interviews and resulted in written protocols. The protocols and collected documentation formed the basis of the case description and analysis.

From late 1986 through 1990, the information collection was more or less ongoing. I was on the mailing list for updates of the administrative manuals (ERM and MISAL) from 1987 to 1990. I was on the mailing list for the company journal from 1987 to 1990.

In 1990 a round of interviews was held at the corporate office involving line and staff managers and staff members. Time was devoted to archival work in the corporate headquartes in Alvik and the former parent company building in Tumba.

Throughout the series of interviews, as a result of direct searches and mailing list arrangements, company documentation of a multifaceted nature was collected. The documentation included:

- policy documents.
- organization charts
- job descriptions.

manuals for administrative work. Examples include ERM, MISAL, ALCOM, VL and KL Instructions (each will be described in detail in the case text). The manuals present a special issue of a moving target in a longitudinal study, especially in periods of intensive change, as they were continuously being updated.

- annual reports from 1970 to 1990 and other published financial information.
- internal newsletters and company journals.
- internal memos and project reports.
- product descriptions.

Apart from the primary intra-company information, secondary information material was collected in a parallel process through out the period. The secondary material is rich due largely to the fact that the company for most of the 20th century was a visible and recognized member of the Swedish industrial community and of the Wallenberg group. In addition, the corporate management was openminded when it came to inviting researchers' and allowing them access. The secondary material includes research reports (e.g. Coljee 1987, Löwstedt 1986, Wohler 1981, Zander 1994), teaching cases, books and business press articles.

The historical development of the firm is covered in some important business history studies. The first decades of the firm is detailed in the comparative study on the genesis of a set of Swedish MNCs by Wohler (1981). A very detailed commissioned corporate history was developed by Torsten Gårdlund (1983) and Martin Fritz (1983). The two volumes document the evolution of the company from its origin in the late 1870s and incorporation in 1883 to its 100th anniversary in 1983. From a different angle Zander (1994) sheds light on the historical technological development of Alfa-Laval in a comparative study of the patenting practice of a broad set of Swedish MNCs that matures into a separate in-depth study of the practices of Alfa-Laval.

The business press articles include shorter news items, but my main search was for the broader company reviews that have been recurring in Swedish business press throughout the transformative years, as they give an outside, unauthorized and often very insightful perspective that complements the internal and the authorized material.

The secondary information has served to enhance my general understanding of the company and issues at hand, and has also been used in the writing of the case narrative. The main source of information of the chronology of the firm's historical development is Gårdlund (1983) and Fritz (1983).

### *Validation*

The material contains a virtually innumerable number of 'data points'. As far as structure was concerned the material was first checked for its internal consistency. One basic technique is triangulation, whereby any observation is checked and accepted only after several independent sources have been questioned. Secondly, the internal consistency of the change patterns provides a basis for the verification of an individual piece of information.

Interview responses always reflect the personal views of the respondent. Managers at various levels tend to present biased pictures. There are some ways of addressing this bias, or rather the risk as researcher of being seduced by the eloquence of managers. One route to clear the bias has been to conduct interviews at corporate, divisional and foreign subsidiary levels of the firm, posing the same or similar questions. This also presents opportunities for a better understanding of the workings of international firms. The series of interviews made it possible to clarify difficult areas successively, as the interviews went along. A second route is to interview several managers at the same unit. For example, both general managers and controllers at divisions and foreign subsidiaries have been interviewed. A third way is to repeat studies over time, possibly facing the risk of post event rationalization on the part of managers. The partly real time research design should address these issues, and enable us to develop a more accurate - accurate in terms of reflecting actual actions and events - description than would otherwise be possible.

Following the programmed information collection, the material was structured and presented to the firm for comments. A presentation of preliminary findings was made in the fall of 1987 to the Alfa-Laval Top Management Conference, resulting in feedback both at the conference and from the dialogue with COO Lars Halldén on several occasions prior to the conference. Lars Halldén also reviewed a case narrative in 1991. These discussions provided additional input to the understanding of the research issues. However, it should be pointed out that these discussions served to check the quality of the collected information and the responsibility for any interpretation of the material rests with the researcher.

An advantage of Van de Ven's (1987) points on longitudinal analysis is in discussing the role of the researcher. Following the information collection, the structured presentation of the 'observed changes' provides a fundament for analysis, somewhat similar to a structured data bank of quantitative analysis. This description may be presented to the company as validation, which was done. The 'inferred patterns' and conclusions drawn remain the responsibility of the researcher.

### **Structure, interpretation and presentation of the collected information**

A basis for the structure and interpretation as well as presentation of the material lies in the structuring of international management categories and perspective on change presented above in the discussion on a spatial and temporal frame. With the collected information indicated, I will here reconstruct the relatively structured interpretation process, much

under the influence of Andrew Van de Ven's writings. The collected information of the empirical study was structured and interpreted in a series of steps:

1. Observed events/ changes were organized in categories of four sets of dimensions of international management; Business, technology and operations, Organizational practices, Administrative practices and Social systems
2. Inferred patterns in each of the four sets of dimensions, respectively.
3. Inferred patterns in the development of the firm.
4. Development of roles played by a set of organizational offices; parent company, product division, foreign subsidiary and foreign subsidiary manager.
5. Overall characterization of the nature of the cross-border integration process.

### *Analysis - 'What' and 'How'*

The steps are basically additive. The development of the management systems is primarily presented in terms of observed changes (Van de Ven 1987); changes in the realized design of the international management systems.

The themes into which the account is structured are the categories of the international management systems developed and discussed earlier. For each theme, or category, the changes over time from national to cross-border orientation are described. In other words, the piece is not chronological overall, but chronological within each theme. However, it is not really chronological time - *chronos* - that is the basis, but the sequence of events - *kiros* - and thus we attempt to link *chronos* and *kiros* (Van de Ven and Poole, 1990, Clark 1999). This seemingly opportune use of Greek should not be seen as academic kitsch. There was reason to expect the various categories of the management systems and contexts to behave differently with respect to time. In other words, there would be a sequencing of events, that varied by category.

Returning to the firm at several points in time makes it possible to see how the design of the instruments has changed, how the functioning has been altered, and how the system as a whole has evolved.

The empirical material has been allowed to influence the final structure of the themes as the case was developed, although the overall structure has remained firm; in other words, the writing process has influenced primarily the subcategories, but also in a few cases themes have been moved between the major categories. For each theme, the chronological development has been described in a narrative form. The aim has been that each piece should trace and outline the evolution over time, from the beginning of the transition from

country based pattern, or some early signs of that transition, through to a point where cross-border activities were the norm. I should point out that the information collection covers the full time period, and for several themes that means describing a relative constant or continuity, instead of change.

Patterns in the realized design of the international management systems are inferred in several steps. First, each subsystem category - business/technology, organizational, administrative and social systems - has been structured graphically along time lines, a practice similar to the use of 'conceptual tracks' suggested by Van de Ven and Poole (1990, 1995). This enables the researcher to identify sequences in the development, also possible simultaneity of changes which may lead to the identification of periods of higher change activity. A discussion of leading and lagging changes is also helped by this practice. Secondly, the subsystems may be brought together in a joint analysis for a combined interpretation of the development of the management systems as a whole.

Finally, the development of management systems and contextual factors is brought together in what becomes inferred patterns of the development of the firm. The interest lies in the international management system as a whole, and in the systemic interaction over time. The risk involved here is obviously in being too shallow in the analysis of individual instruments. No doubt, one could certainly perform a more detailed study of any one part of the international management system activity or function, be it financial control, goal formulation or human resource management, than is presented here. The rule has been to study the individual instrument or subsystem in order to understand its contribution to the whole, and relationship to other elements in the management system. Should the level of understanding be detrimental to the understanding of the whole, the analysis is clearly not sufficient. The interest is systemic, and lies in studying the interaction between all major elements of the management mechanisms rather than focusing on any one specific part.

The conceptual tracks (Van de Ven and Poole 1990) is an aid to identify patterns of change. They provide a basis for understanding both process and nature issues. The tracks help to identify sequences of changes through the temporal ordering of changes and to identify the duration of specific change sequences. However, the tracks do not by themselves provide an understanding or explanation of identified changes. In other words, they do not answer questions regarding why anything happened the way it did. To provide an understanding of the issues we need anecdotal information (Mintzberg 1979b, Van de Ven 1992).



### *Roles - a modest actors perspective*

Although it may be seen that the discussion above is overly systemic, extra effort was made to approach the transformation process from an actors perspective. We may understand the role of an organizational level by structuring the empirical material by type of management system and by organizational level. The case is primarily structured by, firstly, level of international management, i.e. by business/ technology, organizational, administrative and social systems, and secondly, by organizational level, i.e. by corporate office, product division office and local subsidiary office. Each section of international management system and organizational level is then traced over time.

The case is structured 'vertically'. Now, by turning our attention to the organizational level, and turn the attention 90 degrees, we in principle may interpret the development of the role of the organizational level as dependent on various aspects of the technological, organizational, administrative and social aspects, and then trace these fundamentals over time, and explore the continuity and change of the role of an organizational level. In relation to the definition of role quoted above: in the organizational systems development we expect to find the formally expressed expectation of the occupants of positions, and in the administrative and social systems other factors that reinforce or otherwise affect the role of each office. Changes over time will reformulate the formally expected behavior and the means of reinforcement.

An organizational transformation process is likely to have considerable impact on the roles of various actors in the firm. An objective is to employ the induced change trajectories for a discussion of the fate of several offices of the international firm: parent company, divisional office, foreign subsidiary and foreign subsidiary managers.

### *Presentation*

When writing a text such as this, one is engaged in a process of communication. Fundamentally, I see the value of any piece of information sent as highly dependent on the subjective interpretation of a receiver. There will always be a greater or lesser difference between the message intended and the message received. But we bridge these subjective worlds using processes of communication employing a shared, intersubjective set of notions imbued with a more or less common meaning (Berger and Luckman 1967). The social constructions become objectified (Berger and Luckman 1967). The objectifications are not necessarily something evil but a prerequisite for communication, and any

communication of 'something new' takes place against a background of objectivities. The contributions of a text such as this contain hopefully something new. The contribution arises in the receivers end of the communication chain. In an inter subjective world the value depends on the receivers interpretation where one might take a somewhat fatalistic point of view and denounce all responsibility for contributions and the value of the text in the eyes in the beholder. I find such a position to be delaying the academic dialogue into which a published or publicized text is flung. So, while accepting the subjective interpretation as ultimate provider or conditioner of the values of a text, I have rather seen it as a communication and as part of a dialogue. The intersubjective world into which this study is flung is the field of international management.

The first attempt at presenting the case material (in good student standard) was to employ a sharp distinction between description and analysis. This would, with a empiricist logic that I implicitly worked with, allow the reader to compare his own impressions of the material with the interpretation offered (see for example Leksell 1981). This builds on a view of the researcher as detached from the objective artifacts of the site. As a side effect the resultant descriptive text, structured in analytical categories was virtually impenetrable and may best be described as a data base. Reading a data base is exceedingly tedious at best and even the most hardened professor reported that he "physically fell asleep". A most distinct communicative problem. As such the description - analysis distinction defied its own purpose of aiding the reader.

An option was to leave the description in an appendix or a separate volume (see for example Hagström 1991, Lindell 1992, Andersson 1994, Andersson 1996). The description - analysis dichotomy also creates a cross referencing problem if the analysis is not to reiterate descriptive material (e.g. Hagström 1991). On a more fundamental level I would argue that an interpretive perspective does not allow for a sharp dichotomy of description and analysis. Instead one may talk of interpretations of different levels of abstractions.

The final presentation of the empirical study may best be described as a thematically structured interpretive historical narrative. The basic structure comprises the four operative dimensions of international management practice. Within each dimension the ambition is to employ a fundamentally chronological narrative, although there are several retakes. The thematic structuring remains, but with an attempt to successively build up the arguments in terms of how and why the observed and described changes have occurred. The discussion is partly cumulative as reference is made to earlier occurrences and to other parts of the management systems. The text is held in narrative form, with figures and graphics to make

the material more available. As such, most of the graphics and tables are communicative devices rather than analytical.

There is an ambition to employ the vocabulary of the firm in its own terms (Mintzberg, 1979b). Although this study does not employ anthropological or enthnological ideas on going native (Salzer 1994), I see the researchers role as being engaged in a dialogue with the world of the people of Alfa-Laval. I have seen it of importance to let their language shine through what mostly is an imposed structure. There are notable exceptions to the rule: for example foreign subsidiaries were never called just that in the firm. Market company was the most common expression. I have used foreign subsidiary for the earlier nationally defined form and market company as the more restrictive downstream unit. Nor were the words product division used in the manner that the text may indicate. For example, the business area of the late 1980s did not have the 'global' prefix from the global product division concept. Which, however, in itself is indicative of the changes that had occurred.

## Summary

In this chapter methodological considerations have been discussed. In order to satisfy the purpose a longitudinal field study was conceived, based upon both real time and reconstructive elements. The research process of arriving at a spatial and temporal frame for the empirical study was discussed. A fairly broad set of information gathering techniques was found warranted. The relationship between theoretical work and empirical study was found to have been one of interaction and dialogue rather than either deduction or induction with the successively focussed research issues guiding the interaction.

Before going into the account of the particular aspects of the Alfa-Laval experiences it should be pointed out that the research case is based upon both publicly available information and information that was gathered with the cooperation of the company over a period of almost ten years. However, the final text is not authorized or officially sanctioned by the company. The responsibility for the presentation, interpretation and conclusions drawn rests with the author.



## Chapter 3

### ALFA-LAVAL; THE COMPANY AND ITS HISTORY

*Introduction to the Alfa-Laval study; the foundation; the basic business issues; "As long as I am managing director.."; a multipoint international oligopoly; the national foreign subsidiaries; the 1960s restructuring; departures; summary*

In 1986, Alfa-Laval restructured its formal international organization into global product divisions, called Business Areas in the firm. Alfa-Laval ultimately departed from the historical practice of multi-national orientation of international management. In a couple of years the Business Areas would have developed new global businesses, with technology centers around the world and generated new cadres of managers much less ethnocentrically oriented than before. The managerial practices changed visibly from multi-national to cross-border integrated. But how did those changes come into being? Did they in themselves constitute the revolutionary globalization of Alfa-Laval or did they represent a part of a longer, evolutionary process?

The aim of this chapter is to establish the historical, predominantly intrafirm, context of the later changes in business development and international management. The chapter summarizes the development of the company from the foundation to a point in time

around 1970<sup>11</sup>. The upcoming chapters will cover the time period of the cycle of the transformative cross-border integration process of the 1970s through the 1980s. The last entries are from 1990.

### **Introduction to the Alfa-Laval study**

Alfa-Laval<sup>12</sup> is in many respects a typical exponent of the older industrial European international firm, both in its history and in the issues it confronted as the international business environment changed from national to regional or global. Founded in 1879, and incorporated in 1883, the company was itself a fruit of the broad industrialization of the country of Sweden. It was part of an early wave of innovation based<sup>13</sup> Swedish companies which eventually grew into successful international firms, such as ASEA (ABB), SKF, Ericsson and the somewhat later AGA. The company was based on the development of the centrifugal separator by Gustaf de Laval and drew its initial competitive advantage from technological superiority. The firm managed to sustain that advantage through the growth phase of its industry and to achieve a leading role in an international oligopoly along with a German and a British competitor. Although the problem initially solved by the separator was the efficient separation of cream from milk, the company was early on devoted to developing and exploiting the rather generic centrifugal separation technology for which a number of market applications could be identified. A few market and product related technologies were added and the company developed into a supplier of equipment to especially the milk farmer, dairies and shipping. The later independent Alfa-Laval through the 1980s, was an extensively diversified production systems supplier, for mainly the

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<sup>11</sup> Much of the factual base in this chapter comes from the eminently detailed, commissioned corporate history written by Torten Gårdlund and Martin Fritz (1983), with the addition of Wohler (1981) for the early dates.

<sup>12</sup> 'Alfa-Laval' will be used to name the international firm throughout the years. From the foundation until 1964 the name of the parent company was AB Separator. The parent company was renamed Alfa-Laval AB in 1964, and remained so until 1991. Other names were used locally, for example DeLaval in the US, as well for international branding purposes.

<sup>13</sup> Wohler (1981) appropriately points out that several of these revered innovation companies perhaps were more apt at copying than innovating. Still, they managed not only to make a prototype, but to organize massproduction, and eventually acquire international market leadership. As such, and with this in mind, I will here retain the notion of innovation companies.

foodstuffs industry, building many of its products around technologies for separation of liquids and for heat exchange between liquids.

Like other Swedish international firms, and international firms of other national origin with small domestic markets such as Swiss or Dutch companies, Alfa-Laval was always highly dependent on foreign markets. Already very early on non-domestic activities were significant, both in sales and production. Its products had reached New Zealand by 1885; a sales subsidiary was established in the United States in 1883, with manufacturing from 1893; a major acquisition was made in Germany in 1907; a product development center was appointed in Britain in the 1920s. In later times, the degree of foreign sales was in the vicinity of 90 per cent of total sales.

The young company entered its foreign expansion phase in the late 19th century, and very soon non-domestic markets were dominant. Soon the young business venture came in the hands of skilled professional management, and with a stabilized ownership situation, fortified international market presence and a continued technological edge, the company's products were, by the first world war, manufactured and sold through wholly owned, national foreign subsidiaries. Following the formative years, there was a marked continuity in business activities and international managerial practices. Consequently, Alfa-Laval entered a much later period of pressures towards cross-border orientation with well established and consistent international management structures, processes and attitudes; an established mode of management of international operations that undeniably had a long record of success.

From around 1970, the stability of the multi-national management structure began to show signs of incoherence. Elements of cross-border integration appeared, formed a pattern, challenged the older structure and towards the late 1980s cross-border integration was the pervasive orientation of international management in Alfa-Laval.

#### *Tetra-Laval and the resurfacing of Alfa-Laval*

The 28th of January 1991, it was announced that Alfa-Laval was to be acquired by the Swedish based packaging and distribution systems supplier Tetrapak through a friendly takeover. The take over meant that the firm changed ownership for the first time since the early 1930s. Sellers were majority family interests through Wallenberg and also Lundberg companies, and a bid was made for all outstanding shares. Alfa-Laval became a wholly owned subsidiary of Tetrapak, privately held by the Rausing family, and the company was

withdrawn from the stock exchanges where it had been noted. The name of the new firm came to be Tetra Laval. The Tetrapak take over is not likely to have had any implications on the events described in the cross-border integration process of international management in this study, which focused on the period up to, and including, 1990. As such it is a study of the occurrences in the company that Tetrapak eventually aquired.

In the late 1990s the greater part of Alfa-Laval was restructured or divested by Tetrapak. The always relatively independent milk farmer oriented business was restructured as a self contained business unit under the name of DeLaval, while most of the industrial activities divested as a second part. In late spring 2002, the latter was introduced on the Stockholm stock exchange under the 'resurfaced' name of Alfa-Laval.

### **The foundation**

In the late 19th century Sweden was in a process of rapid industrialization. A string of institutional changes in the mid 1800s paved the way for a wave of industrial modernization<sup>14</sup> across the country. Several of these reforms generated quantitative and qualitative changes in production factors where, for example, the general knowledge level of the population was increased by compulsory schooling, the urban labor force increased as a result of migration from the countryside and modernized when the restricting guild system organizing the workforce had been abandoned, and agricultural surplus combined with export of raw materials generated risk capital<sup>15</sup>. Few aspects of society were left untouched; the parliament was also reformed. It was a societal revolution on slow burn.

In the economic climate of the late 19<sup>th</sup> century, innovative individuals generated technological novelties and founded companies. The risk-taking was often very high and most proved unsubstantiated but some, through a combination of technological advantage, financial backing, managerial skill and luck, survived and came to provide the backbone of Sweden's modern industry. One of these early Swedish 'invention' - companies was AB Separator, which was contemporary with the innovations and foundations of companies that became multinationals such as Ericsson, ESAB, ASEA and SKF. AB Separator was based on the invention of the mechanical centrifugal separator by Gustaf de Laval, patented in 1878, an invention that dramatically improved efficiency in separating cream from milk compared to earlier methods. In order to exploit his invention of the separator, Gustaf de

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<sup>14</sup> I borrowed the term from Lyttkens (1986).

<sup>15</sup> See Myhrman (1994) for an account of institutional changes in the industrialization of Sweden.



Laval teamed up with his friend Oscar Lamm, also a civil engineer but with an apparent talent as an administrator and businessman. After struggling with prototypes, suppliers, finances and sales agents, the company was founded in 1879 - which incidentally was the same year that standard time was introduced in Sweden<sup>16</sup> - and incorporated in 1883 as AB Separator. This was to be the name of the parent company until 1963 when it was changed to Alfa-Laval AB<sup>17</sup>.

Following a conflict over new inventions by de Laval, Oscar Lamm felt compelled to leave the firm - which to a large extent was his own creation - and he was bought out in 1886. The company came into the hands of professional management as John Bernström was made managing director in 1887. John Bernström stayed for 18 years as managing director, until 1915, and was to be the creator of the AB Separator that survived the years. Bernström eventually managed the company with a type of paternalistic control with family members and relatives in key posts. His son, for example, served for several years as a sort of personal envoy, until the relationship between the two deteriorated. John Bernström was a most respected man among his contemporaries and was the first chairman as the Swedish industrialists formed the Federation of Swedish Industries<sup>18</sup>. During John Bernström's reign as managing director the foundation was essentially laid for the basic structure of the firm that would remain up until the changes that are documented in the upcoming chapters.

As so often seems to be the case, the inventor himself, Gustaf de Laval, lost control over his creation. Renowned for his technical talent which was displayed in several inventions and technological innovations, Gustaf de Laval came to be a prominent figure in Swedish society during his lifetime. He was gifted with a brilliant engineering mind and his inventions - many of which developed in his own 'skunkworks' - were the basis for a far flung industrial complex including activities in dairy, mining and light bulb production. However, the financing of his activities was as vivid as his technical imagination, and eventually his creditors caught up with him. In 1897, the then member of parliament de Laval had to hand over his shares in AB Separator to his creditors in order to avoid bankruptcy and public scandal.

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<sup>16</sup> The evolution of an 'industrial', standardized perception and practice of time in Sweden is convincingly described in Lundmark (1989).

<sup>17</sup> The chronology and many factual events related in the text are based on the richly descriptive commissioned corporate history of Gårdlund(1983) and Fritz (1983). Instead of burdening the text with many references I have chosen to do so when critical. Any analytical construction or conclusion drawn is mine.

<sup>18</sup> In Swedish: Industriförbundet, now Svenskt Näringsliv.

Considerably later, in the 1930's, the company became part of the Wallenberg sphere of interest. Jacob Wallenberg was elected to the board of directors of AB Separator in 1930, as a response to the ten per cent share in the company then held by the Wallenberg family holding company Investor. Stockholms Enskilda Bank, the predecessor to contemporary SEB, took over the company's banking in 1934. Jakob Wallenberg was to remain on the board of directors until 1970, and the company was part of the Wallenberg interests until early 1991.

### **The basic business issues**

From the very early days, until late in the series of changes in the transformative period, the greater part of the sales of the company were generated through addressing the same basic needs, solved through the employment of the same, while evolving, technologies, for the same customer groups<sup>19</sup>. There was a remarkable continuity in the business definition of the firm over a very long time. As early as the turn of the century, AB Separator had addressed a defined set of issues. These issues were to preoccupy the firm in the future and the solution of which came to constitute the core businesses of Alfa-Laval. These early issues were separating cream from milk, preheating and pasteurizing milk, pumping the liquids, taking measurement of dairy product quality and finding a functioning milking machine. I will briefly address each in turn.

The centrifugal separator was the technology for separating cream from milk on which the company was based. It has remained a key technology applied for a wide variety of industrial uses. AB Separator initially grew through exploiting the market for the mechanical centrifugal separator. The separator was originally developed for dairy use - as a more efficient solution for separating cream from milk. Gustaf de Laval's machine was a technologically superior solution to a problem which had been addressed by several inventors around that time. The de Laval separator speeded up the process of making cream from milk from hours to minutes, with significant quality improvements of the cream obtained.

It was by no means the only or the first attempt. The issue was more or less simultaneously and with similar ideas addressed in several countries; competing patents with centrifugal solutions, actually filed earlier but outmaneuvered, were found in Denmark and

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<sup>19</sup> See Abell (1980) for a discussion on these dimensions of business definition.

Germany, in France and in the United States<sup>20</sup>. It seems that Gustaf de Laval managed to improve on the technical qualities and mastering very high revolution speeds, but most importantly de Laval and Lamm were the better exploiters, the better businessmen, acquiring international market coverage and a market leadership that was to be continued<sup>21</sup>.

From the start the company was built upon technological advantage, a source of competitive advantage guarded and sustained by the company into the modern engineering firm. AB Separator was one of the high tech companies of its time. For the turn of the century contemporaries, the separator was a sophisticated piece of technology; with some 6500 revolutions per minute it required narrow tolerances in manufacturing, careful handling while shipping, precise assembly and skilled servicemen in order to function well. As we will see, characteristics of the product influenced the international production-, as well as the international sales organization.

The de Laval patent was only the starting point. The technology of separation was improved in a series of internal developments as well as acquired patents, and the company has managed to be at the forefront in several technological leaps. One of the most important technological steps came already in 1889, when AB Separator acquired the patent for so called alfa plates, an import of a German patent through the then agent Bergendorfer Eisenwerk<sup>22</sup>. The patent substantially increased the capacity of the machines and thus the technological advantage of the company's separators, and provided the company with protection for a few crucial years of development. Important for future applications were the improvements in the 1950s, allowing for a continuous instead of a batch industrial process. This was the result of the so called self cleaning separator, which did not require the process to be stopped at intervals for cleaning. A late addition has been the filter techniques, which enabled an entry into the biotechnology field.

Although the first models needed a fair amount of power to spin, and were developed with dairies in mind, the early market dominating design was the small scale hand separator, distinguished from other separators by the means of power used to turn the separator around; the hand separator was essentially cranked around by the farmer. However simple this technology seems, and although the production in Sweden in terms of units peaked in 1926<sup>23</sup>, it was to be the backbone of the entire industry up until the Second World War. The

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<sup>20</sup> Wohlert (1981, pp377).

<sup>21</sup>See Wohlert (1981) for an exhaustive and very interesting account of the formative years of the firm; from 1876 to 1914.

<sup>22</sup> (Wohlert 1981, pp78)

<sup>23</sup> Fritz (1983, pp89)

larger machines needed more power - consequently called power separators - and were intended for dairies. The industry substitution of hand separators with larger machines was above all a question of the quality of roads for transportation of fresh milk. There were also some technical problems to be solved for dairy use, such as a great amount of foam produced by the early power separators. Most of these problems concerning the separator itself had found a solution by the end of the 1930s. Also during the 1930s, roads were beginning to be of a quality the year around that was sufficient for daily transport. The consequence for the maker was fewer but larger units<sup>24</sup>.

Mechanical centrifugal separation of liquids of different density is a rather generic technology in the sense that it is suitable for a wide range of industrial uses, and applications gradually extended from the milk and dairy origin into the industrial sector, building on the technical know-how of the company. Separators were subsequently specialized for different customer needs, where separators for cleaning lubricant oil in mechanical industry was one of the first major groups of machines. Another early use was marine separators for lubricants and fuel onboard ships, originating during the First World War. Development of the industrial separators was slow, and it was not until after the Second World War that the commercial breakthrough occurred. It also seemed rather hesitant on the part of Alfa-Laval; for a long period of time industrial separators were labelled 'special' separators, seemingly opposed to the 'normal' milk and dairy machines.

The second fundamental business issue concerned the preheating of milk before separation and the problem of pasteurizing milk - two issues that after several technological solutions of varying quality eventually led to the incorporation of the plate heat exchanger (PHE) in the 1930s<sup>25</sup>. The addition of the plate heat exchanger technology in the 1930s helped both to support systems design and create new customer groups for the firm. Pasteurizing milk involves both heating up and cooling down the milk, and the idea of saving energy in the process was efficiently and flexibly addressed in the plate heat exchanger. Alfa-Laval first licensed the plate heat exchanger technology from British APV through its German subsidiary Bergedorfer Eisenwerk. However, work was ongoing on an Alfa-Laval machine, at Bergedorf. The first was ready by 1931, and the PHE went through a series of rapid improvements over the 1930s. The critical development work and first decade of production was done at the German subsidiary, although with a couple of

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<sup>24</sup> In a very interesting set of general arguments with bearing on this issue, Chandler (1986, 1990) emphasizes the importance of infrastructure innovations and investments for the growth of the modern MNC.

<sup>25</sup> Fritz (1983, pp194)

Swedish engineers as responsible for the project. When the German political situation began taking an unpleasant turn towards the end of the 1930s, and the risk of war was immanent, the PHE production was moved to Lund in southern Sweden, where it remained.

Thirdly, the company had a pump of its own design in 1897. The interest in in-house pump manufacture has remained throughout the years, and eventually acquisitions in the late 1980s made pumping, and piping and other support equipment for the food industry an important business in its own right.

Fourthly, measurement equipment - early examples for the measurement of fat content in milk are the Laktokrit by de Laval and its replacement, the Butyrometer. Later still, in 1981, the acquisition of the German company Bran+Lubbe continued the development of problem-solving activities in dosing and analyzing and again expanded, for example, through the acquisition of divisions of the American firm Technicon in 1987.

Gustaf de Laval struggled in the early days with the milking machine issue, although with a flawed solution. The managers of the company noted that a great many inventions were being developed, and basically concluded that it could enter the market at any time. Lavalco, as the US subsidiary was called internally, developed an efficient solution to the problem, presented to the American market in 1917, which was transferred back to Sweden and to the European markets after the war. Whereas the separator in modern times has not been sold to farmers, the milking machine has remained a core product in an extensive range of products sold to milk farmers ranging from computer assisted feeding systems to detergents.

Combined, the technology- and business development addressing the fundamental issues resulted in a set of core, and some more peripheral, components, partly developed and manufactured in national foreign subsidiaries and sold worldwide. Several of the product divisions formed in the 1970s and remaining throughout the 1980s were direct descendants of these business issues. The separator business formed the "S" division, the heat exchanger business the "T" division, pumping and related equipment formed eventually a business area called "Flow Equipment", the measurement issues addressed in a unit called "Dosing and Analyzing" and the milking machine would eventually form the basis of Alfa Laval "Agri". But then, of course, the idea of product divisions was conceived much later.

**'As long as I am business director...'**

The basic business issues addressed already before the turn of the century have remained focal points for the firm throughout its history, and the more generic of the technologies developed as solution to the fundamental issues discussed above - the separator and the PHE combined with the milking machine - remained at the core of the company and formed the basis for a wide range of customer oriented and applied products.

These early developments seems to have set a role model for close-range, problem-solving development of the firm's product range. As we have seen, the separator and dairy related issues were fruitful routes of expansion for the young company. Early experimentation with unrelated diversification led to strains on management time and to tied-up capital. Around the turn of the century the young company invested in steam turbines in the US, in casein in France and a yeast separator in Sweden, all of which generated losses and managerial problems. The somewhat tragic personal fate of Gustaf de Laval was linked to this excessive dispersion of interests. It seemed that the firm gained from related problem solving, and diluted its effort by making unrelated investments. The results of these endeavors led managing director Bernström to conclude that

*"during my time at AB Separator the company will not invest outside dairy-related areas".<sup>26</sup>*

As we have seen, the industrial separator only slowly made its way into the product catalog and then first as a 'specialty separator', and the policy of related constrained diversification<sup>27</sup> based on internal development of new products actually remained in practice until 1985/86, when a still related, but linked and acquisitions-based business development policy was manifested. Although industrial separators and other non-dairy uses of the core technologies slowly were adopted, and while a few unrelated product areas grew substantially, the policy of related diversification remained throughout the firm's history.

However, the company historically was never alien to making a good acquisition; already in the early days vertical acquisition of foundries in Sweden and foreign sales agents, such as German Bergedorfer Eisenwerk in 1907, set an example, along with horizontal acquisitions like that of Danish competitor Burmeister & Wain in 1896.

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<sup>26</sup> Fritz (1983). My translation.

<sup>27</sup> See Rumelt (1974). Related *constrained* diversification pertains to a circular business development pattern with a distinguishable common ground, while the alternative - related *linked* diversification - brings the firm gradually further from its original business.

The core components of Alfa-Laval AB in modern times - the separator, the plate heat exchanger and the milking machine - have long since reached a mature state with saturated markets and limited volume growth. One way of increasing the sales of a fixed volume is to build systems around the components. The company has attempted this route in several ways, and for quite a long time. Up through the 1950s, virtually all AB Separator sales were of components; of singular separators, plate heat exchangers etc. Work began at this stage that eventually resulted in the modern, production process designing company; systems were built around the core products, and made part of the related diversified nature. The size of the systems increased until turn-key deliveries of dairies and other units were included.

Components were combined with support equipment and sold as complete systems also in the early days, but then rather occasionally. One of the first examples must have been the so called "turbine dairy" of the 1920s, a small scale, 'knock down', dairy for decentralized dairy production. It was a response to the poor quality of roads at that time. Still, components were the backbone of the company's sales well into the 1950s. During the 1950s, a concerted effort was made to package key components into food production process systems. Towards the end of the 1950s, processes like Centriflow; for production of edible fat, Centrifish; for continuous production of fish oil, ashore as well as onboard a ship and Shortmix; for vegetable oils, were marketed. These processes were all centered around the separator. Another type of systems development, which actually started earlier, was combining separators and PHEs, especially for dairy and marine use. The development work, and design, of dairy separators and PHEs were linked to each other, for example in terms of sizes developed, for efficient use in the dairies. Systems have been customer oriented, predominantly towards food and beverage manufacturing industries, and often building on the separation knowledge. The supply of relatively small, semi - standardized, food production modules, remained a most important product group for the company.

The development of very large scale production systems, sometimes of turnkey nature, for food and beverages production also started in the 1950s. The orientation of the firm has been to design "complete processes" in the factories. Since then a number of complete food processing plants have been designed. The nature of the large systems business is such that the software component of the product is substantial, involving the employment of highly skilled personnel for development work. The systems were custom designed, and delivery times of a year or more were not uncommon. To a limited extent turnkey deliveries of entire

plants were made, several of which of spectacular size. In 1960, the two first important complete dairies were delivered; in Cairo, Egypt (capacity 100 000 liters of milk per day), and New Dehli, India (cap. 300 000 liters per day). Early deliveries were also made to the Soviet Union.

Commercialization of the dairy and food systems generally occurred in the 1960s, although the volume growth of systems related sales took some time to achieve. The components have remained a fundamental activity of the firm and in 1983, for example, the engineering work associated with systems deliveries accounted for around 50 per cent of the production value for industry-related activities.

The organic business development practices of the company led over time to great complexity with a multitude of market segments and product variations and applications, and where the individual businesses to a varying degree were interdependent. After the development from the 1950s and on, the company developed competence in designing and delivering production systems especially to dairies and the food and foodstuffs industry. But the 'systems' Alfa-Laval had in-house supply of both core components and peripheral equipment such as cooling tanks. The product/ market complexity was coupled with an extensive geographical dispersion.

#### *Unrelated diversification*

The company has over time been involved in various unrelated business activities ranging from textile machinery to lawn mowers, but these units have eventually been divested. One of the most speculative and long-lived unrelated product diversification efforts was the manufacturing of automobile bodies for Volvo, from 1928 to 1969. The diversification came about as the AB Separator factory in Olofström had excess capacity in the late 1920s. Volvo, in its entrepreneurial phase, was short of finances and time, and an agreement drawn up whereby AB Separator became the supplier of car bodies. The Olofström facilities made all Volvo car bodies, and fueled by the expansion of the car-maker in the post-war economy, Olofström became the fastest growing unit of Alfa-Laval. In 1968, Olofström made 170 000 car bodies, and represented close to 25 per cent of Alfa-Laval sales. In essence, the factory was a joint venture, with Volvo paying for investments, and Alfa-Laval assuming the risk for facilities and personnel. With growth, the arrangement became a strain for both parties. For Alfa-Laval because of the relative extent of the subcontracting activities and ensuing dependency, and for Volvo because the value of the Olofström deliveries



approached one third of the cost of a car. Volvo ultimately acquired Olofström in March, 1969.

### **A multipoint international oligopoly**

In the early days, competition was fierce between the many companies in the national Swedish separation industry. New technology and growth attracted attention. The emerging industry saw the start-up of a great number of companies, most of them, however, with a limited life span. After the first wave of concentration there were three companies fighting for sales to farmers and dairies: AB Separator, which was the largest of the three, Pump-Separator, and Baltic. Following a market slump in the late 1920s, resulting in increasing price competition, the industry was restructured: Baltic was first acquired by Separator and Pump-Separator jointly, and less than a year later, in 1929, Separator acquired Pump-Separator. Consequently, Separator achieved a near monopoly on the domestic markets. From this time, the competitive situation of the company was decidedly international. To put the point even stronger, from this time the competitive environment has been that of an international oligopoly, with essentially the same participants from 1929. The main international competitors throughout the years have been Westfalia, of Oelde, Germany and British APV. The international firms have been challenged by local competition that varies and has varied in intensity from country to country and between product/ market areas.

From the 1930s and onward the main European competitive situation in the core areas was that of a multipoint, international oligopoly with three dominant actors. In separators and milking machines an industry structure with Alfa-Laval, Westfalia and local manufacturers has been common on most national markets of any size. The pioneer in plate heat exchangers, and over time a main competitor has been British APV (Aluminium Plant and Vessel Co.). APV was founded in 1910, and has been making PHEs from the 1920s. As AB Separator had the advantage of being able to supply dairies with both separators and PHEs from the late 1930s onwards, Westfalia and APV have cooperated in these product areas on some markets.

A few internationally active companies engaged in separator manufacturing, and founded around the turn of the century, have had parallel development patterns. Again, the most important European and international competitor in separators, and having remained so despite the great wars, is German Westfalia. Other competitors of continued presence were

Sharples, of the United States, and Titan, of Denmark. The main competitor in separators in the United States was always Sharples, of Philadelphia, PA. It began making hand separators in the 1890s, and followed a similar development into new related products as AB Separator, but came to specialize on decanter centrifuges (separators for liquids with a very high solids content). The European oligopoly on centrifugal separators stretched into the United States, with no substantial US-owned company manufacturing centrifugal separators in modern times (although the subsidiary Lavalco to all intents and purposes for long periods of time has been American. Lavalco passed a so called Buy American Act in the early 1980s and has remained a major supplier to the US Navy.). The subsidiaries of Alfa-Laval and Westfalia supplied the US market.

The competitive positioning of the company was based on technological advantage and a high price/ high quality competitive positioning. The early de Laval separator was, possibly, the best of several contemporary attempts to solve the problems of cream separation. The incorporation of alfa-plates continued the technological supremacy. The sales pitch during these years was that the machines gave a the better yield of cream, and other quality related claims. This focus on technological advantage was to carry over into the modern engineering firm. The important alfa patent expired around the turn of the century and its expiration generated low price competition. After only a few experiments to meet that competition through product redesign, AB Separator came to focus on increased sales support and a high price/ high quality competitive stance. This effort of arguing for the long-term economic benefit of the high quality machine was successful on most national markets, with the exception of Russia, where the low cost machines were strong. The modern Alfa-Laval has continued this product/ market positioning, with few and late contrary examples, such as small, brazed, non-serviceable PHEs added in the mid 1980s.

### **The national foreign subsidiaries**

Alfa-Laval was always very dependent on non-domestic markets. Growth and foreign expansion were intertwined and vehicles for pursuing foreign market opportunities relatively quickly was found in the form of national foreign subsidiaries.

#### *Growth and foreign market expansion*

A market related factor of great continuity is the company's dependency on non-domestic markets and the geographical diversity of markets. This has been the case for virtually all of its existence and a practice that was emphasized rather than changed in the last few decades as an independent firm.

Foreign expansion was very rapid and even during its founding years international contacts were established and separators shipped abroad. In 1885, out of a total of 826 separators manufactured in Sweden, only 196 (24 per cent) were sold on the Swedish market. 107 (13 per cent) were sold in the other Nordic countries (of which the majority in Denmark), 262 (32 per cent) in Germany, 67 (8 per cent) in France, 66 (8 per cent) in Great Britain, 10 (1 per cent) in other European countries, 105 (13 per cent) in Australia and New Zealand, 13 (1 per cent) in South America and Africa. Furthermore, 394 separators were manufactured and sold in the United States. The expansion was directed towards regions where milk and milk products were traditionally an important part of peoples food and cultural habits. On cultural grounds, and from the more mundane measurement of density of cows, northern Europe and North America was natural targets for the products of the company, as was the Australian market. Actually, the Swedish environment of the firm may have provided an additional driving force for the international expansion as the centrifugal technology substituted an earlier ice method, where the availability of natural ice was a prerequisite. Of course, south of the wintry Scandinavian countries, de Lavals machine, and similar solutions, enjoyed a greater 'substitutional' advantage.

Alfa-Laval shares a high dependency on foreign markets with many other Swedish multinational firms. Swedish entrepreneurial firms quickly expanded into foreign markets. The mature firms with established sales and manufacturing subsidiaries have often had around 90 per cent of their sales abroad and somewhat less for foreign manufacturing<sup>28</sup>. Alfa-Laval is not atypical in a Swedish context.

The firm has aimed its efforts at the same customer groups for a very long time. Farmers and dairies were the first distinguishable customer groups, slowly followed by the owners and constructors of commercial and military ships as the industrial separators were developed with special emphasis on naval applications. These customer groups continued to be the most important market segments.

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<sup>28</sup> See for example Sölvell, Zander and Porter (1991).

When Oscar Lamm left the company in 1886, he had already established a network of agents covering the major European markets as well as the US. For several reasons the agents were, over a period from around 1900 to the First World War, transformed into wholly owned national foreign subsidiaries. Although it is outside the scope of this study to cover the establishment pattern, we should note that the company, in the early years, tried several forms of local establishment, including sales agents, licensing of production and various joint venture agreements. Up until the Second World War, subsidiaries of the Swedish ball-bearing maker SKF were agents for AB Separator products in many distant markets. For the larger national markets in Europe and in the US, national subsidiaries were the norm from a very early date.

The reasons for transforming the agency relationships into wholly owned subsidiaries were both technological and market-related; both of which aspects led to investment needs that the agents were reluctant to incur. The separator was an advanced technological solution for its time, and required proper manufacturing and installation in order to function well. Thus, the company was reluctant to license out production of the key component - the separator bowl - which continued to be made in Sweden and shipped abroad for assembly with locally produced parts. The firm was concerned about the diffusion of its technology, and the practice actually continued until the Second World War. The high revolution speed required small tolerances in production and one of the problems for the young firm was to find qualified local production partners. The high speeds also made installation crucial to the functioning of the machine, and thus the need for what in modern terms would be customer support. With growth, there was a need early on for local spare parts storage, service and repairs facilities. In the face of emerging low price competition around 1900, after the expiration of the alfa patent, the firm adopted a high price/ high quality competitive stance, and the efficiency of the machines was important. Consequently, control over manufacturing and installation became critical for the firm also for competitive reasons. New competitive circumstances required intensified sales support and investments in well trained direct sales forces. With the growth in turnover, agents were reluctant to committ the resources necessary as early as at the turn of the century. So, the complexity of the technology, competitive factors, and investment needs coupled with several fights over

control of local agents or joint ventures led to the establishment of wholly owned local subsidiaries in all the major country markets<sup>29</sup>.

Site	Agent	Sales subsidiary	Production
Denmark	1879	1900 Copenhagen	1910 Copenhagen
Germany	1879	1901 Berlin	1902 Berlin
			1907 Hamburg (Bergedorf acquisition)
France	1879	1907 Paris	
Great Britain	1879		
Austria		1897 Vienna <sup>30</sup>	1897
		1898/1903 Budapest <sup>31</sup>	
USA	1883 (J/V)	1883	1893 Poughkeepsie, N.Y.
Russia		1910 (J/V)	

Table 3.1. Examples of establishments of national agents, sales subsidiaries and production.

Source: adapted from Wohler (1981, p40), additional information Fritz (1983)

As the firm consolidated its positions, the national foreign subsidiary became the main vehicle for the further international expansion of AB Separator. Apparently a very robust mode of organization this international structure was to remain formally untouched until 1979.

### *International operations*

Domestically, the parent company from the start adopted a functional organization structure that was to last until 1968. The organization of production followed the same lines

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<sup>29</sup> The general importance of these driving forces for establishing 'salaried sales forces' is discussed by Chandler (1986).

<sup>30</sup> The result of a smaller acquisition of a machine shop in Vienna in 1897, incorporated in 1898 as Actien-Gesellschaft-Alfa-Separator Wien. Possibly the first European foreign direct investment by a Swedish industrial company (Wohler 1981, p137).

<sup>31</sup> The Budapest company closed down a minor production of dairy tools in 1903 (Wohler p138).

as drawn up by Bernström around the turn of the century, although departments were set up to cater for new activities. As early as in the 1920s, as work on the industrial separators was starting, there was an organizational division into marine separators and separators for other uses. These were the "Marine end" and "Land end" - so called because they were located in each end of a corridor.

The authority of the Swedish production manager ended at the border, and there was an "export sales" department for sales to foreign subsidiaries. In the early days the production manager - the "Överingenjör" - was also responsible for product development and undoubtedly was a most important individual in the then high-tech firm. The parent company developed staff functions along with the functional organization structure. As we shall see, the functionally organized central staffs remained considerably longer than the formal parent company organization structure. The larger foreign subsidiaries had their own staffs.

In the early days the operational organization of AB Separator was the same as the legal structure, with a domestic parent company and national foreign subsidiaries in the various national markets. In relation to the foreign subsidiaries the parent company was an export organization. The foreign subsidiaries reported directly to the managing director of the parent company.

The basic principles of Bernströms organization of production were to last until the 1970s. The production was organized by country, with many, but not all and not always, of the main development units in Sweden. It is notable that the key component - the separator bowl - was the last to be licensed to the foreign subsidiaries for local production, and even then reluctantly so.

In the early development of the products one can note the importance of the foreign subsidiaries in product development<sup>32</sup>. Several critical steps in the development of core components have been taken in the non-domestic units. One of the first key design steps of the centrifugal separators, the so called alfa-plates, came with the acquisition of Bergedorfer Eisenwerk of Germany in 1907. Marine separators were pioneered through technically advanced solutions by the United States subsidiary De Laval Separator Co. (Lavalco). The importance of the foreign subsidiaries in the early years should be stressed, as, not only did Lavalco pioneer the use of marine separators, but the company's appointed European center for development of industrial separators came to be located in London, England, from around 1920 to 1926, at the De Laval Chadburn company, not at the parent company

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<sup>32</sup> See Zander (1994) for patenting activity of the various national subsidiaries.

in Sweden. The possibly first international AB Separator conference ever was held there in 1925, discussing the new industrial separator. The Swedish arm of industrial separation found an interesting organizational solution, as a result of a research and development joint venture: Separator-Nobel, founded in 1923. Also, the efficient solution for milking machines was developed at Lavalco in the US, and later introduced on the European markets.

During the Second World War, virtually non-existent trade led to a build-up of production facilities in the various countries. To keep the local factories running, the parent company had little option but to furnish the subsidiaries with specifications and drawings of core components. Any ideas of reconcentrating production were spoiled by the demand surge of the post-war economy and the firm was left with a multiple-plant structure for the first post-war decades, duplicating both development work and manufacturing. After the Second World War the company had a largely parallel operations structure, with duplication of efforts and several local variants.

The post-war production in the subsidiaries reflected local needs. For example, the British subsidiary concentrated on marine separators and milking machinery, the French on wine and cheese manufacturing systems. A couple of non-domestic corporate product centers were appointed. The Italian subsidiary had started production of local variants of separators in the 1930s. The most important product, not only in Italy but in the entire Mediterranean region, was separators for use in the production of olive oil. Eventually, in the 1950s, the Italian subsidiary was appointed corporate center for development, production and export of olive oil separators. There are two noteworthy exceptions to the specialization of foreign production in the early post-war production structure. German Bergedorf and American Lavalco both had broad product programs, similar to that of the parent company. Bergedorf had several products of no connection to Alfa-Laval's core business, such as equipment for the textile industry.

An important piece in this jigsaw is how the location of technical development has shifted throughout the years. The history of Alfa-Laval is in many respects typical for Swedish multinational firms with a manufacturing base, but it has been found that Alfa-Laval in this respect is the odd man out. Following the substantial technological contributions of the foreign subsidiaries in the early decades of the century, the technology development slowly shifted home again to the Swedish parent company when measured as the proportion of

patents granted<sup>33</sup>. Thus, during the mid-century decades the technological initiative shifted back to the parent company, and an important factor in understanding the course of the transformation process established.

In the parent company, the factory operations gradually left the ancient site at Kungsholmen which had become central Stockholm and moved 50 km south to Tumba. Tumba, with separator R&D and production and the important marine application of separators, as well as milking machine production, was one of two distinguishable technological centers of Swedish operations that emerged during the post-war period. The other was Lund, with plate heat exchanger facilities and most of the growing dairy and food systems efforts.

### *International management*

A couple of circumstances made the coordination of the activities in the international firm manageable. Firstly, during the 'component' era the size and scope of the company's activities was smaller and narrower, and the parent company was able to have substantial operative insight which diminished in later years. Secondly, the informal aspects of the management model with quite intensive communication between the parent company managing director and foreign subsidiary managing directors provided much of the coordination through personal agreements. This informal and personalized management based on trust was - in post-nepotistic times - to a significant degree based on long careers in the firm and a resulting strong social structure.

Somewhat surprising from an information age perspective is the apparent lack of respect for establishing and conducting business over great distances in an age when the telegraph was a new phenomenon and there was no quicker means of extensive communication than a letter - forwarded by steamship. The operating relationship between headquarters and subsidiaries in the early days were defined in a few, and well defined points of contact. The Swedish office initially provided technical knowledge and later the core component, sold at "export" prices. The foreign subsidiaries provided payments for goods and yearly dividends. On top of this, there was an ongoing and frequent, but largely informal communication between the managing director of the parent company and the managing director of the foreign subsidiary. It was to a large extent a relationship between two partners, rather than

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<sup>33</sup>See Zander (1994) for these findings and comparison with the developments of other Swedish multinational firms' development of the location of technological development.



between hierarchically superior and inferior organizational units. The relationship was dyadic. A few such dyads virtually frames the key international relationships in this enduring model of international management: the parent company manager and the managers of foreign subsidiaries in Germany, France, Great Britain, the US and possibly Denmark and Italy together were in charge of the lions share of the company's sales, assets and employees.

The management style in the early days was paternal and colored by nepotism. Many of the managers, both domestic and in the subsidiaries, had long careers with the firm. The nepotistic aspect of recruitment during Bernströms reign, especially that for foreign service is pervasive. The difficulty in finding individuals with the qualifications needed was the source of the practice. John Bernström needed a kind of individual that was in scarce supply in 1900; technically educated, linguistically skilled and of the right social background. He also needed a certain character: negotiating skills, somewhat of a cultural chameleon with a physical and mental robustness that could withstand the journeys, responsibility and cultural changes. The individual had to conduct negotiations on behalf of the company and its managing director without much possibility of communicating with the head office. Consequently, and perhaps the crucial aspect, Bernström needed individuals that he could trust. The answer to the demands was an inclination to rely on nepotism, a practice that brings negative associations to the present day reader with meritocratic ideals, but in those days had a rational background.

Up until the Second World War blueprints for key components was kept in Sweden and obviously for restricted use in the non-domestic units. However, with the most definite trade restrictions during the war this last refuge of central control had to be abandoned and the key component blueprints distributed in order to keep the factories running in the foreign subsidiaries. The separation of national markets imposed through the war and the post-war demand surge of the 1950s resulted in a decentralized, federative structure where one can expect polycentric management attitudes to have prevailed. The general international strategy of the firm was one of national responsiveness, with local variants and product lines. The general international organization structure was based upon wholly owned, national foreign subsidiaries.

### **The 1960s restructuring**

In 1960, Hans Stahle was appointed managing director, at the age of thirtysix. With Bernströms long reign a pattern had been set with long-terms of office for managing

directors. This was to be the case also for Hans Stahle who was to remain in leading positions of the firm - managing director and chairman of the board - until his death in 1989. Like his erstwhile predecessor John Bernström, Hans Stahle also served for a period as chairman of the Federation of Swedish Industries.

The period with Hans Stahle as managing director began with a restructuring of the company towards the core businesses and thus divested interests in white goods - which included Electrolux shares, lawn mowers and in 1969 the Olofström car body manufacturing. Instead, the internal dairy and food systems development came to be the focus of business development activities. The 1960s was a period of concentration, including divestments of activities deemed unrelated, and increasing attention on food and dairy systems. As a symbol of these efforts, but building on the heritage, the name of the parent company was changed for the first time: AB Separator in 1963 became Alfa-Laval AB.

For a great many years, not only the main factory works, but also the office of the parent company was located in what later became central Stockholm; Fleminggatan on Kungsholmen. The location proved increasingly impractical, and in the early 1960s both the parent company head office and the remaining parts of the separator factory moved out to Tumba, 50 km south of Stockholm. As of May 1964, the parent company management of what was now called Alfa-Laval AB took office in a newly constructed high-rise building in Tumba. The Tumba location was something of a return to the milk farming roots of the company, as the location of the new high rise office complex was next to the showcase Hamra Gård milk farm of Alfa-Laval AB.

A restructuring of the domestic operations towards core components took place over the decade, coupled with increasing efforts on systems design and deliveries.

However, there was a continued reliance of the well established form of international management. Hans Stahle inherited and continued the established international management model with Swedish parent company and foreign subsidiaries and around 1970 had some 100 subsidiaries of varying size and importance reporting directly and personally to him.

## Departures

The first signs of a profound change in international management practice, challenging the prevailing national orientation of the firm became visible around 1970 - changes I see as

symbolic, of foreboding changes to come, and a departure from the well-established international management structure. As such, they mark the very beginning of the cross-border integration process.

With the sale of the Olofström car body manufacturing in 1969, which represented a third of the company's turnover, there was a marked *focus on the traditional core businesses* in the Swedish parent company.

Domestic operations had always been functionally organized. In a major step away from historical practice, the parent company in 1968 formally reorganized into the very modern *divisional organization structure* (initially called 'sectors' at Alfa-Laval)<sup>34</sup>. Thus there were three domestic divisions: the customer-oriented Agri which was oriented towards the milk farmers, and the product and regionally defined Tumba and Lund divisions. However, the company was about to split the Tumba division into two product divisions: Separation Engineering - for development and manufacturing of separators - and Marine and Power Engineering - for the application of core components for naval uses. The functional managers of the parent company in 1970 still remained, but were soon to leave their offices. As the product divisions formed, they would eventually become an organizational force capable of challenging the position of the foreign subsidiaries.

The direct link between all foreign subsidiaries and the parent company managing director was about to be broken. Managing director Hans Stahle appointed a deputy in 1971 in Harry Faulkner, to share the responsibility. Many foreign subsidiaries now had an *indirect link to the parent company managing director*.

A new administrative framework - the Economic Reports Manual (ERM) - was introduced in 1970, with the intent of providing an *international administrative standard*, a format for economic planning and periodical reporting within the entire firm.

Two acquired factories in Denmark came under the control of Lund instead of the national foreign subsidiary in around 1970. This heralded the product divisions involvement in the internationally dispersed functional activities, and a first move towards a *cross-border coordination of functional activities*.

In 1970 the Greek alfa logotype was added with the explicit intent of serving as a common uniting symbol and with the explicit intent of limiting the number of brand names and company names in use. It was a step in the development towards a *uniform international market appearance*.

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<sup>34</sup> Somewhat later, in the mid 1970s, a wave of divisionalization swept over the Swedish business community (e.g. Ljunglöf, Rolander and Åman 1979)

In 1970, Jakob Wallenberg resigned from the board of directors of the family-controlled firm after forty years as a board member, the final ten years of which he spent as chairman.

## Summary

Alfa-Laval was founded as an entrepreneurial firm as AB Separator in 1879. Shifting fortunes in a volatile situation led eventually to a stable ownership when Jacob Wallenberg took a seat on the board of directors in 1930. The firm was to remain a Wallenberg interest until 1991.

The company's history exhibits an adherence to a set of fundamental issues or business definition that have remained remarkably stable over time: the separation of liquids of different density starting with the milk-cream *separator*, the heat exchange between liquids as originated with the *plate heat exchanger*, the *pumping* of liquids, *measurement equipment* and finally the increased efficiency in milk farming specifically centered around the *milking machine*. Perhaps as an inheritance from its innovative founder, a practice of related constrained, organic product growth and diversification prevailed and resulted in a complex and largely interdependent product portfolio.

From very early on, foreign markets have dominated the sales records, with national foreign semi-autonomous and wholly owned subsidiaries as the central vehicle to pursue business. Expansion of the firm and international expansion were almost synonymous processes, with sales agents established almost around the globe by 1885. With agents transformed into foreign subsidiaries in the early 1900s, many before 1910, a nationally oriented international structure was formed that was to remain formally untouched until 1979.

From 1929 onwards, the competitive situation was dominated by one and the same international multipoint oligopoly. The historic development of the company through the years provides virtually a blueprint of the European mother - daughter form (Franko 1976), including such characteristics as early nepotistic recruiting, long careers in the firm, functional domestic structure with an 'export' department, the semi-autonomous foreign subsidiaries with a broad capability for self-determined action, limited administrative control coupled with important informal aspects of coordination - notably the extensive communication between managing directors. Events such as the Second World War served to strengthen the basic traits of the international management form, reinforcing the relative

autonomy of the national companies and further emphasizing the federative nature of the international firm.

With a new managing director in the young Hans Stahle the 1960s saw some radical changes in Swedish operations with a renewed focus on the traditional core businesses and divestments of significant industrial interests in other fields. The name of the parent company was changed to the more internationally feasible Alfa-Laval AB, and the parent company office was moved to Tumba, south of Stockholm. Still, for most parts these changes meant very little in the foreign subsidiaries.

Around 1970, a number of 'departures', of important steps away from the nationally oriented international organization established in the early 1900s are observable, marking the beginning of a change process that eventually would lead to a cross-border integrated firm. There were, around 1970, decided attempts to uniform market appearance internationally, and the parent company had begun work to uniform administrative practices which potentially was to lead to administrative control of international operations - something that had never before been possible. With the arrival of deputy managing director Harry Faulkner, not all foreign subsidiaries would have direct access to the parent company managing director. And with product oriented 'sectors', a cuckoos egg was planted in the nest that eventually would provide a critical driving force in the transformation of international management.



## Chapter 4

# ALFA-LAVAL; DEVELOPMENT OF SOCIAL STRUCTURES AND PROCESSES

*Owners and parent company board of directors; the managers; management committees; some company culture projects; on the internal language and jargon; patterns of social systems development.*

In the previous chapter, a series of changes around 1970 indicated a departure from the mother-daughter, nationally responsive model of conducting international management that had been the way of Alfa-Laval since the early years of the 20th century. The ensuing transformation process cycle, leading to a new organizational configuration, required a long period of time to be completed. Both the 1970s and most of the 1980s were spent with successive changes in operations, organization, administration and social structures.

In this and the following three chapters, the developments in the course of the transformation of Alfa-Laval from a national to a cross-border international management orientation will be described. In this first chapter attention will focus on the people who were in the center of the construction and reconstruction. The spotlight will be on the social structures and processes of international coordination<sup>35</sup>. The next chapter will describe the business, technology and operations development, followed by chapters on organizational structures and administrative systems, respectively. Together these four

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<sup>35</sup>A chronological summary of the development of Alfa-Laval AB from 1970 to 1990 that summarizes both strategic context and management systems may be found in Appendix A.

chapters provide a descriptive account of events throughout the cross-border integration process. Each chapter has a chronological structure and ends with a summary containing an interpretation of change patterns from the events described which is also put in a graphical format. This structure of four partial and chronological chapters does lead, however, to some cross-referencing problems, which I have tried to limit. Following these four partial accounts, chapter eight will bring the strands together into a descriptive comprehensive picture of the cross-border integration process of international management in Alfa-Laval.

### *Social systems around 1970*

Approaching 1970, Alfa-Laval was a publicly quoted, but family controlled firm with Jakob Wallenberg chairing the board of directors of the Swedish parent company. The board of directors of the parent company was composed of Swedish nationals as were the key managers of the parent company. The firm had continued a tradition of long internal careers; -the parent company managing director in 1970, Hans Stahle, had assumed office in 1960 and, for example, Agri manager Lennart Berglind had been in office since the 1950s. For most, the career opportunities were local but quite substantial, be they in the parent company or in a national subsidiary.

The international firm should be characterized as essentially polycentric (Perlmutter 1969). The larger foreign subsidiaries were indigenous parts of their respective countries. In Germany, the national head office was located in the same Hamburg plot that came with the acquisition of Bergedorfer Eisenwerk in 1907. The German company was a significant player in the German business community, with all functions associated with a general firm, and no doubt providing a good career opportunity for those locally employed. Similarly, in the US the company operated from the ancient Pooghkeepsie, New York State, site which had seen the construction of a factory in 1893. Pooghkeepsie at times had been 'Alfa-Laval town', and the company was a major supplier to the US Navy. These larger foreign subsidiaries were of the same size as the Swedish parent company, had long local histories, had been run for long periods of time by local nationals, and from a cultural standpoint were very much part of the local business community.

The recently formed 'sectors' in Sweden must from a foreign subsidiary viewpoint have been as a local experiment in the parent company, and the young managers, such as Lars Halldén, relatively untried and unknown, apart perhaps for Harry Faulkner, who carried the



name of his father, Harry G Faulkner, who had been managing director of the parent company from 1946 to 1957.

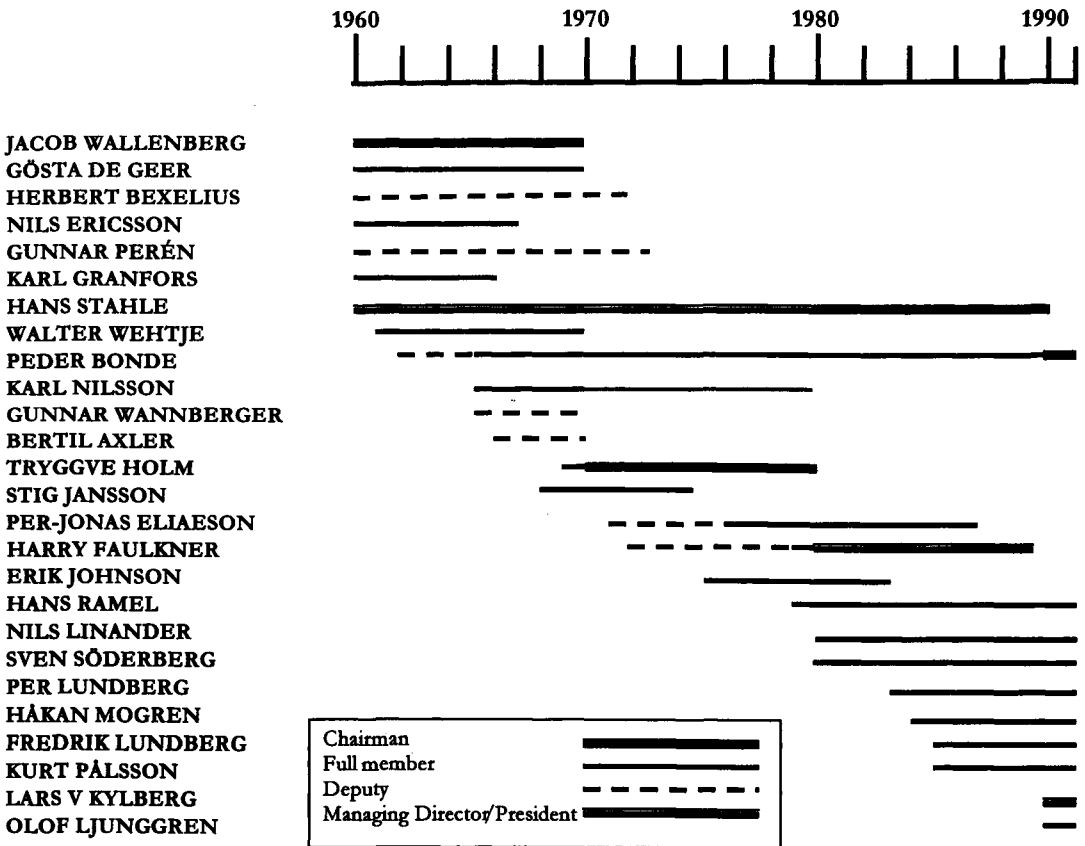


Figure 4.1. Alfa-Laval AB board of directors, 1960-1991.  
Source: Fritz (1983, annual reports).

## Owners and the parent company board of directors

The parent company board of directors reflects the ownership of the firm, as well as changing regulations, preferences and practices of the day. Before studying the membership of the board of directors, the ownership background will be considered.

When Tetrapak acquired the firm in 1991, it had been a Wallenberg company for 57 years, since the early 1930s<sup>36</sup>. The largest owners over the years were Investor and Providentia - the Wallenberg holding companies. Investor and Providentia together controlled some 27 per cent of the votes<sup>37</sup>. Many of the Wallenberg investments have been in long-term industrial activities; ASEA/ABB, Ericsson, Electrolux, Atlas Copco, Saab, Scania. It is fair to assume that the Wallenberg ownership, and its stability, conveyed a long-term development perspective to the management of the company.

With the awakening of the Stockholm stock exchange in the 1980s, there was also greater interest in the Alfa-Laval stock. Alfa-Laval had been one of the traditional Wallenberg companies embodying the family credo of 'acting without being seen', and in a sense managing director Hans Stahle was better known than his company, partly from being chairman of the Federation of Swedish Industries in the late 1970s. The new managing director from 1980, Harry Faulkner, made efforts to make the company less anonymous in the eyes of the wider public. With Harry Faulkner, Alfa-Laval launched a widely recognized and discussed corporate image campaign in 1981, which included full-page advertisement in daily newspapers, and a more open attitude towards information-diffusion was adopted. In 1983, Alfa-Laval shares were introduced on the London stock exchange, bringing in 273 MSEK and quickly followed by the 'record year' profitability figures<sup>38</sup>.

Unfortunately, the 1984 problems of sharply falling sales to milk farmers had a chilling effect on the stock markets. In the summer of 1984, after the profitability problems, the market value on the Stockholm stock exchange was around 2.6 BSEK/nom while the

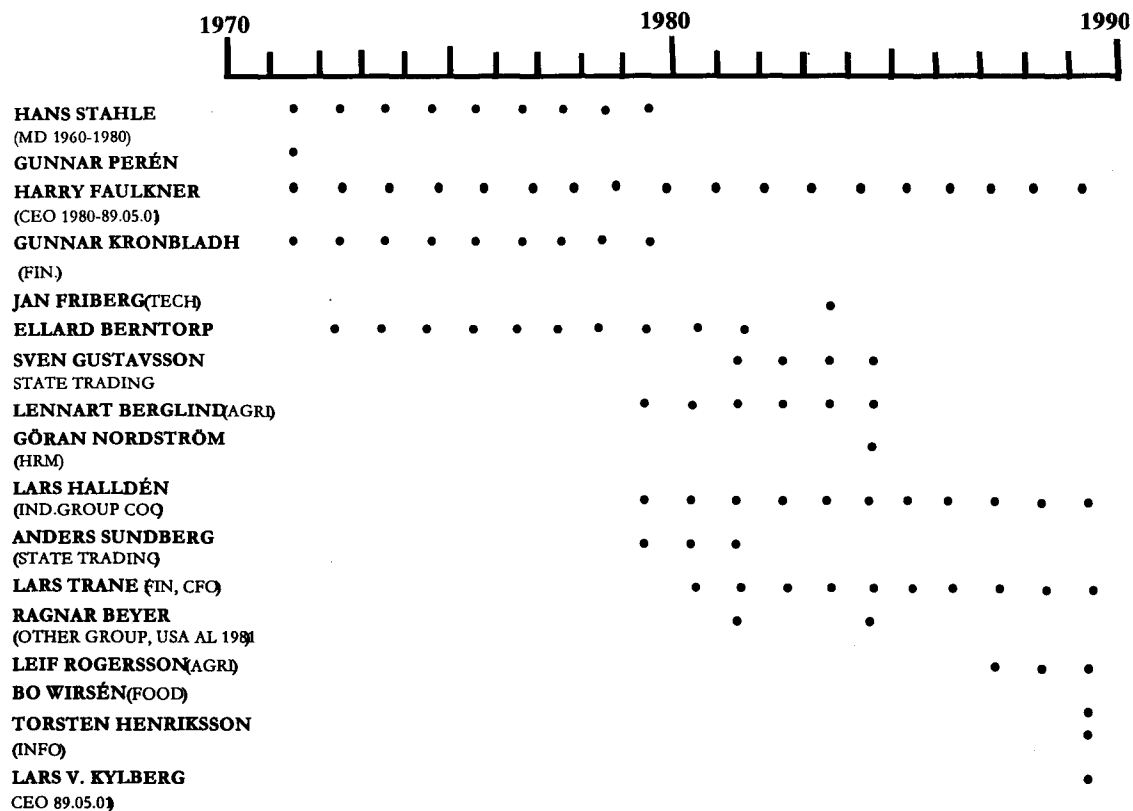
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<sup>36</sup> Jakob Wallenberg was elected to the board of directors in 1930, and the 'family bank', Stockholms Enskilda Bank, took over the company's banking in 1934 (Fritz 1983, pp148).

<sup>37</sup> Investor and Providentia merged in 1991 under the Investor name. The merger had no effect on the events described in this research case.

<sup>38</sup> The company turned to international capital markets very early in its existence. In 1928, 140 000 shares were introduced in Geneva and Amsterdam. A second issue of shares was placed successfully in London. In modern times the company was traded on the stock exchanges in Stockholm, London, Amsterdam and Geneva, as well as traded in the US through ADRs.

Figure 4.2. Alfa-Laval, executive management, 1960-1990.  
Source. Annual reports, documentation.



company simultaneously held cash reserves of around 2.0 BSEKnom, and the business press was voicing concerns that the company was an acquisitions candidate. Not surprisingly, in mid 1984, Fredrik Lundberg uninvited acquired around 17 per cent of the votes, later rising to 25 per cent, and Alfa-Laval was in the position of having two dominant and almost equal owners. The Lundberg 25 per cent share should probably be regarded as a portfolio investment, as Lundberg at this point in time was mainly a construction company with real estate holdings.

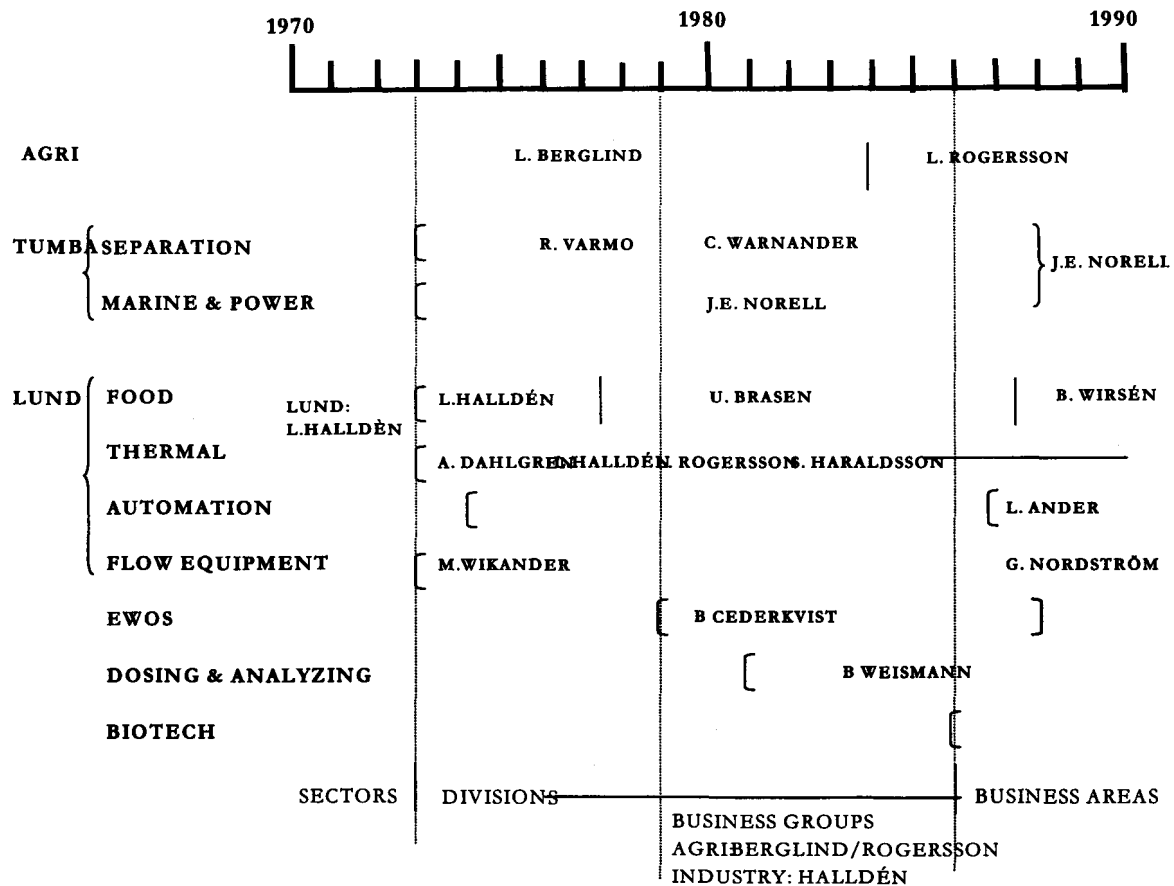
I will come to argue that the cross-border integration of Alfa-Laval was well concluded before the Tetrapak acquisition in 1991. The Tetrapak acquisition of Alfa-Laval was the largest cash acquisition to date on the Stockholm stock exchange, and the cost for Tetrapak for acquiring Alfa-Laval was in the order of 16 BSEKnom. The buyer, Tetrapak, is still privately held by the Rausing family. Tetrapak has its origins in Lund in Sweden and its activities are based on an invention for the continuous packaging of milk in coated paper packages. The combined headquarters of what became Tetra Laval was located to Lund, Sweden. The Tetrapak office was relocated back to Lund after a Swiss period, and the Alfa-Laval headquarters moved from Alvik, on the northwestern outskirts of Stockholm. Then Alfa-Laval President Lars Kylberg left the firm to take the helm at what at the time was the Wallenberg centerpiece, Saab-Scania. Lars Halldén succeeded him as President of Alfa-Laval AB, and was appointed President of the combined Tetra Laval in 1992. For Halldén it was a kind of full circle as he had led the Alfa-Laval Lund division from 1971.

#### *Members of the board of directors of the parent company*

Jakob Wallenberg left the chairmanship in 1970 after 40 years as a board member, and we should note the continued prominence of Wallenberg family members on the board of directors. Partly in contrast to the stability of ownership, there are some interesting changes in the composition of the board of directors.

One may note the appointment to the board of directors of professional managers associated with the Wallenberg sphere. During the 1960s especially, professional management was affiliated to the board as alternates (Perén, Wannberger, Axler, Faulkner). This somewhat blurred line between owners and 'salaried management' became more firmly drawn during the 1970s when the practice of deputizing managers of the firm disappeared.

Figure 4.3. Alfa-Laval, divisional managers 1960-1990.  
Source: Company documentation.



There are three occasions when a more significant shift in the membership of the board of directors occurred. In 1970, or shortly thereafter, seven members left the board of directors. Throughout the decade, the board was rather 'tight'; small, with family and related professional managers. As a result of government legislation, the board of directors was enlarged to include the required representatives of the workforce in 1973; two full members from white and blue collar unions respectively, and two alternates were appointed.

1980 again saw changes in many positions with the chairman, vice chairman and the company managing directorship changing places. The 1980s gradually saw a broadening of the board of directors with new types of members coming in. Apart from new 'Wallenberg' professional managers (Lundberg, Mogren), professional managers and investors not immediately associated to the Wallenberg sphere were elected to the board (Söderberg, Ljunggren) and the new major owner was represented as of 1985 (Lundberg, Pålsson). The renewal and broadening of the board of directors led to an increasing proportion of members not associated with the history of the firm as well as representing new groups of interest. It does not seem unlikely that the board of directors from 1980 and on, and especially from 1984-85, provided an increasingly fertile ground for non-traditional policies.

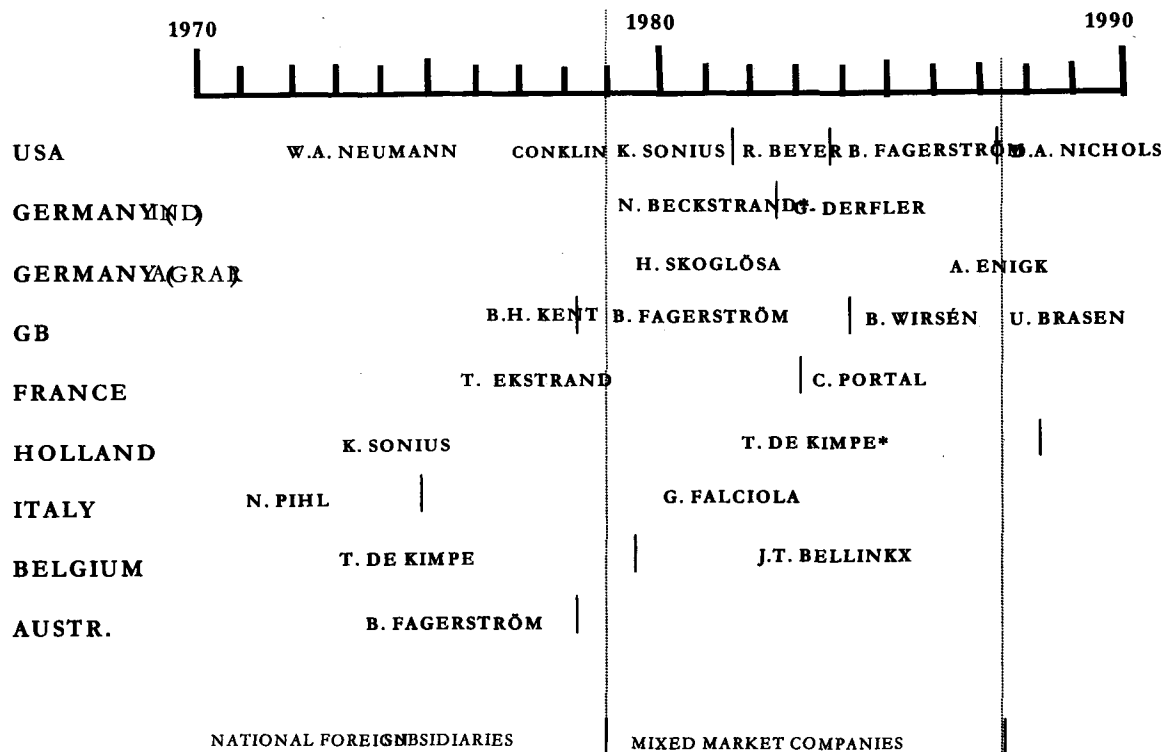
In 1989 Harry Faulkner left his post as CEO, the firm and the board of directors in May and Hans Stahle past away, while still in office, in October.

## **The managers**

### *From parent company managers to corporate officers*

With a long heritage, and up until the early 1970s, the parent company management consisted of the managing director, which from 1960 was Hans Stahle, and three deputy managing directors whose roles were functionally defined: production, sales, and administration/finance. The parent company - the Swedish operations - was formally divided into a profit center structure in 1968. As a consequence, the production and sales directors left in the first years of the 1970s.

A few key individuals with very long-terms in parent company offices were at the center of events throughout the period of transformation. Chief among these were Hans Stahle, Harry Faulkner and Lars Halldén. Hans Stahle was managing director of the company from 1960 until assuming the chairmanship of the board of directors in 1980. Harry



\* Remained after 1988 as holding company manager irrespective country

Figure 4.4. Alfa-Laval, subsidiary managers, 1969-1990.  
Source, company documentation.

Faulkner, having served as manager of the Lund division from 1968, became sole deputy managing director of the parent company in 1971, without functional office but with

shared responsibility for the foreign subsidiaries. Harry Faulkner was appointed managing director in 1980, and stayed until fall 1989. Lars Halldén was appointed divisional manager for the Lund division in 1971, deputy managing director and head of the Business Group Industry in 1979, and Chief Operating Officer in 1986. He remained as COO throughout the 1980s. Another individual with long-terms in offices was Lars Trane, who was appointed as administration and finance director and deputy managing director in 1980, and Chief Financial Officer as of 1986, a post he kept throughout the period studied. During a period of significant internal reorganization, there was a notable stability in the management team. The continuity of individuals at the parent company was not broken until 1989 when Hans Stahle passed away, and Lars Kylberg was externally recruited to succeed Harry Faulkner as President and CEO.

#### *From divisional managers to global business area presidents*

Like the parent company/-corporate management, divisional management generally shows a significant stability over time. Some managers of product divisions have had very long-terms in office, for example Lennart Berglind, who was the manager for Agri from the 1950s to the mid 1980s. The divisional managers stayed on as business area managers. After the 1986 change, they were presidents of individual companies, as well as globally responsible for their respective businesses. Changes were few.

#### *From national foreign subsidiary managing directors to...?*

The 1970s and 1980s saw a greater turnover rate of market company managers than of either corporate or divisional managers. However, many of these were rotations. Again the firm made use of a limited number of persons with continued presence: for example Nils Beckstrand, Theo de Kimpe, Björn Fagerström, Guiseppe Falcicola.

The changing organization and role of the foreign subsidiaries also had an effect on the career opportunities. Generally, the changes led from national foreign subsidiaries with basically local internal recruiting, to the mixed market companies of 1979, to the dedicated market companies and national holding companies of the late 1980s. A new promotion pattern emerged after the holding companies were formed in 1987. Despite the policy of having no dedicated holding company manager nor any central local resources at that level, there were some exceptions to the rule. In Germany, Nils Beckstrand was made holding



company manager in 1987, and in Holland Theo de Kimpe in 1988. Both left the operating management of the mixed market company in question. Always something of an exception vis-à-vis the European companies, Alfa-Laval Inc. in Fort Lee had a dedicated holding company manager in Dave Nichols, appointed in 1987, with some central US staffs to support him, e.g. a legal staff.

### *Rotation*

Typically, Alfa-Laval would develop management from their own cadres and recruit internally for managerial positions. As a consequence of the internal development and recruiting, Alfa-Laval was a company of long careers within the firm, and many individuals devoted most of their working lives to managing Alfa-Laval activities. Scratching the surface reinforces the image of a firm with internal careers, where the long careers meant that many individuals acquired a rather broad experience of the activities of the firm. Significant rotation between parent company, divisions and foreign subsidiaries was the practice. As a logical companion policy to near-life time employment, Alfa-Laval management was hesitant to outrightly fire individuals. Patience and transfer may accurately characterize the practice.

By nature of their individual careers, it is fair to assume that the new parent company executive from 1980 had a greater inclination to be responsive to the issues of the product divisions than previous executives. Hans Stahle, despite the increasing prominence of the product divisions during the years, was often referred to as the market companies' man. On the other hand, his successor, Harry Faulkner, had experience from the product divisions' viewpoint from having led the Lund division from 1968 to 1971. By nature of his background, Harry Faulkner had an understanding of the needs and wishes, as well as the frustrations, of the product divisions vis-à-vis the market companies, and the product divisions could assume a greater understanding from him in their pledges for influence over international operations. Lars Halldén virtually embodied the rise of the product divisions. On the other hand, Lars Trane had personal experience from the market companies, having served as controller of the American subsidiary in the late 1970s, until 1980, when he was made corporate financial director.

The corporate management of the late 1980s had very broad experience of Alfa-Laval activities. Apart from the careers outlined above of Harry Faulkner, Lars Halldén and Lars Trane, Leif Rogersson and Bo Wirsén also had long Alfa-Laval careers. Interestingly, the

latter two had served on the parent company business development staff in the early 1970s. Both of them had then worked abroad in several places and functions. Bo Wirsén, manager for the Food Engineering business area, was earlier controller for the British market company, which he later headed from 1984 to 1987 (during the course of study in 1987, he switched places with the Food Engineering manager Ulf Brasen). Leif Rogersson was earlier managing director of the Australian market company. Leif Rogersson for Agri in 1984, Bo Wirsén for Food Engineering in 1987. Thus, it may be noted that two of the business area managers of the late 1980s had experience from the market companies.

There was significant rotation of market company managers among a group of individuals who 'specialized' in foreign subsidiary management. Over the period studied, and for the selected market companies, Kes Sonius, Björn Fagerström, Theo de Kimpe and Asmus Enigck all moved to other market companies. There seems to have been a pattern of lateral rotation, with, possibly, but not obviously, a promotion in terms of greater size and complexity of the subsidiaries.

By the nature of the career patterns, the relationship between the individuals and the firm was far from calculative<sup>39</sup>. Many fused their working lives with the company and rotated between different roles in the firm, and different geographical placements, rather than switching to an outside position. Then, of course, Harry Faulkner had strong ties to the firm for family reasons

Another level of career involvement and socialization beyond the firm, which also is beyond this study, but deserves a mention, was at the level of the Wallenberg group. Although Alfa-Laval had a fairly limited exchange of managers with the Wallenberg companies, the new CEO recruited in 1989, Lars Kylberg, came from another Wallenberg company - Incentive, and returned to another Wallenberg mission after the Tetrapak acquisition.

On few occasions were key managers recruited externally. Nevertheless, a parent company manager commented in 1982 that

*"Our experience of external recruiting has been a costly one."*

Alfa-Laval was a company relying on internal development and recruitment of management and has very few external recruitments in top positions at home or abroad.

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<sup>39</sup> Using Etzioni's (1968) classification of the individual's involvement with the firm as coercive, calculative or normative.

The appointment of Lars Kylberg as CEO in 1989 is a prominent, if late, exception. Another external recruitment was Ragnar Beyer who was recruited as manager of the Other companies group in 1979 but in practice worked mostly as foreign subsidiary manager in the US until he left the firm in 1983. The acquired firms retained their management to a certain extent, although the picture is mixed. Björn Cederkvist of Ewos remained in office following the acquisition in 1979. Within Flow equipment, which consisted of several acquired firms, there were very few managers with Alfa-Laval background, save the business area manager Göran Nordström. On the other hand, acquired companies like Bran+Lubbe, SattControl and Euroheat saw a management change with 'Alfa-Laval' managers coming in. With the formidable number of acquisitions in the late 1980s, Alfa-Laval was no doubt experiencing a shortage of general managers with internal experience as well as the competence relevant for the new situations, and seems to have adopted a pragmatic stance towards the issue. Thus, up until the mid 1980s, the management cadre of Alfa-Laval developed slowly in number and as a result of internal development, whereas with the later acquisitions, managers with other background have increasingly been brought in. However, the changes were barely visible at the very top positions - save the Lars Kylberg appointment - and varies substantially between the business areas.

### *Ethnocentric recruiting and rotation ?*

Over the period studied, no non-Swedish individual made it to the parent- or corporate management committee. This has been argued to be a typical practice in Swedish multinationals, despite the seemingly contradiction of their global spread of functional centers, foreign dependence of sales and of the geocentric attitudes associated with cross-border business<sup>40</sup>. None of the core product divisions were headed by anyone other than a native Swedish manager. The corporate office was all Swedish and Swedish was the informal language of the corridors, albeit that the written material was all in English and many had a good command of other languages at the office.

The market company managers show a different national background to either corporate or divisional managers. Local and third country recruiting was common for the market company managers, with Swedes as trouble-shooters or 'professional' market company

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<sup>40</sup> See Hedlund, Danielsson and Synnerstad (1990) for a survey and discussion of this seemingly ethnocentric recruiting pattern in a broad set of Swedish multinationals.

managers. Generally the Swedes have come to the foreign subsidiaries in times of trouble. For example, a number of Swedes arrived at the US subsidiary around 1980 both as managing director of the subsidiary and as local divisional managers.

### *Reorganizations and management capacity*

The rapid redefinition of organization structure and offices that was identified earlier was not matched by a change of the individuals that occupied the parent company positions. The parent company executive did not change abruptly, but instead stayed reasonably constant and evolved in an overlapping and non-disruptive fashion.

The transformation was achieved largely conserving and building internal management capacity in the parent company and divisions, while significant rotation was made of managers between foreign subsidiaries. Important recruiting was with very few exceptions internal. Reorganizations were made with regard to the existing management capacity, or moderated by it. As such the changes are a mixture of rationalistic specification of roles and based on the internal supply of management capacity.

The major reorganizations were carried out with little change in individuals. The 1979/80 reorganizations of the board of directors, parent company, and the new Business Groups looked on the surface to be dramatic. However, Hans Stahle and Harry Faulkner remained, and Lars Halldén's appointment as manager of the Business Group Industry was a continuation of his work in Lund but on a larger scale. Lennart Berglind continued his work in Agri. Aspects other than individual appointments of the 1979 reorganization were more important, such as the explicit inclusion of the non-domestic activities.

The changes in corporate management in the business areas in 1986 were rather a confirmation of existing practices than a novelty. The group level that vanished in the reorganization in 1986 left no traces in terms of lost management capacity; Lars Halldén remained as COO and the head of the ex-business group, now Business Area Agri, Leif Rogersson, remained. The number of business areas was also partly the result of staying with the existing managers - in this case the managers of the product divisions/ business areas. All Business Areas had previously been product divisions within the Industrial Group - plus Agri - and now reformed as Business Areas with the same managers.

### **Management committees**

From 1971 Alfa-Laval had a formally appointed parent company management committee, with a semi-formal internal division of tasks, including tasks relating to international activities. Until 1971, there was no formal parent company management committee. The parent company managing director maintained contacts with the foreign subsidiaries and the functional managers were responsible for product development and production in Sweden, for administration and finance and for export sales respectively.

#### *Parent company management committee*

The notion of an Executive Management Committee appears in 1971, and it formally consisted of four members: the managing director, deputy managing director and two deputy managing directors with an office - finance and sales respectively, although the sales director left around this time. All through the period until 1979, the committee consisted of central parent company managers only. Neither divisional, nor market company managers were included.

Following the business group reorganization in 1979, the committee was expanded, and varied between five and eight members in the years to come. At the end of 1982, for example, the Executive Management Committee (or Verkställande Ledning, VL, in Swedish) had five members; the Managing Director, the two deputy managing directors in charge of the business groups Agri and Industry, the deputy managing director for Finance and Administration, and the deputy MD for state trading and developing countries. At other instances, the corporate manager for Technology and the head of the Other businesses group also were officially recognized as part of the VL. Notable in the business group era, is the inclusion of business group managers in the VL, i.e. the heads of the two-tier global product divisions were officially considered part of the management committee of the firm. No market company manager enjoyed that status. Due to the size of the group, an informal division occurred where there tended to be an inner and outer circle in the committee, and in 1986 the corporate management committee was formally reduced in size.

In 1986, in conjunction with the business area reorganization (see below) - the structure of the corporate management committee was also reformed. The Executive Management Committee was replaced by the Executive Group Management (EGM, or Koncernledning, KL in Swedish ["corporate management"], in contrast to the earlier Verställande ledning, VL ["executive management"]. The name change was partly a response to a perceived need

to stress the corporate office as distinct from the business areas - the global product divisions. Interestingly enough, the Swedish abbreviations, VL and KL, were used throughout the firm. Still in 1987 the corporate management was referred to as the 'KL' (the Swedish letters but pronounced in English). Membership was then reduced to three. The corporate management committee, as of 1986, consisted of the President and Chief Executive Officer (CEO), Executive Vice President and Chief Operating Officer (COO) and Executive Vice President and Chief Financial Officer (CFO). It was back to a situation with only corporate officers in the committee.

However, the team was soon enlarged. In 1987 the head of the business area Agri, Leif Rogersson, was made the fourth member, and promoted to executive vice president while retaining the chores at Agri. Another expansion came after the appointment of Lars Kylberg as CEO in 1989, with the inclusion of the head of staff for Corporate Communications, Torsten Henriksson, and the head of the Food Engineering business area, Bo Wirsén.

Over time the corporate management committee was alternately composed of members from only the corporate office and membership including the product divisions. Whereas the product divisions from time to time enjoyed formal recognition through membership in the committee, the foreign subsidiaries have never been officially part of this group. Whatever their influence on company-wide policies, it must have been exerted in some other way.

Starting in 1986, there were three formal meetings per year for the Executive Group Management and the heads of Business Areas. This group functioned as a sort of "quasi-board", or steering committee of the Alfa-Laval group. Each meeting was a full day of work. The first meeting, in April, was a follow up of the previous years results and discussions of these results. The second, in June, dealt with corporate and business area strategy issues. The third meeting, in December, was a budget meeting. There was no comparable form of meeting for the heads of market companies.

*"We now control through the business areas"*

In terms of business areas, after 1986, the CEO had prime responsibility for Agri and the Technology business areas. The CFO had prime responsibility for the Finance business area. All other business areas reported to the COO.

Historically, the managing director of the parent company had a personalized relationship with the managing directors of the foreign subsidiaries. The relationship was based on personal trust and frequent informal contacts sorted out areas of difference. This was the model of John Bernström, and it is reasonable to say that it was the model that Hans Stahle inherited. Although there were some 100 foreign subsidiaries formally reporting directly to Hans Stahle, the number of such relationships in practice was limited. The managing directors of the parent company and of the German, the French, the US, the British and the Italian subsidiaries, possibly a very few others, together were responsible for the greater part of sales, employees as well as manufacturing facilities and development units of Alfa-Laval. Until 1971 all foreign subsidiaries formally reported to the managing director of the parent company. There was a uniform mother-daughter relationship, where the foreign subsidiary managers reported to the corporate office, and specifically to the managing director of the parent company.

A break in this relationship occurred in the early 70s, following the appointment in 1971 of deputy managing director Harry Faulkner. During the 1970s, a division of area responsibility between the managing director and the deputy such that - with a couple of minor exceptions - all foreign subsidiaries reported to either one of the two. A similar, semi-formal, area responsibility was from then on the norm at the parent company.

With the extended management committee in the business group organization, a regional responsibility was issued to a broader group. Regional management in the VL was provided by the so called "governors"; each member of the VL had specific market companies to keep track of and to maintain contacts with. This was described as a sort of collective responsibility on the part of VL, a "management by togetherness", and in need of significant inner contacts to ensure a unified outer attitude towards the market companies.

In 1986, the previous "governors", with the function of being a point of contact for the country subsidiary and a source of area expertise in the parent company were replaced by the similar Group Management Representatives (GMR)<sup>41</sup>. (The formal Regional Management, instituted in 1979, coordinating activities in state-trading countries and developing countries was reformed with two vice presidents into a corporate staff function:

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<sup>41</sup> see Pitts and Daniels (1984) for a discussion of multiple role assignments combining staff and line functions.

International Market Coordination). The position was in most cases upheld by the COO, or one of the two vice presidents for International Market Coordination.

The GMR's responsibilities was formally outlined to:

- be informed with respect to the status, performance and development of the subsidiary. Contact should be on an ongoing basis and include a series of visits by the GMR to the mixed companies.
- approve the subsidiary's total budget
- examine investment proposals
- ensure that issues of dispute between the president of a market company and the head of a business area are resolved.
- function as superior to the president of the mixed market company (with respect to salaries, bonuses and other employment terms).
- provide additional support and advisory services to the presidents of the market companies and business area heads; and, especially for overseas subsidiaries, act as "Ambassador" within the parent company.

In 1987, the managers of Mixed Market Companies reported to the Executive Group Management, although formally through the filter of the local holding company. Thus, the relation between MMC managers and corporate headquarters formally remained. The "non-mixed" market companies reported in operating matters directly to the head of the business area and in a legal sense to the local holding company.

Even in late 1990, all countries still reported to someone in the Executive Group Management. This means that there was someone at the country level responsible for being informed about all activities in the country, and someone at corporate level appointed to a similar task.

The President was responsible for the USA, eastern Europe, the UK and Switzerland, The COO for the UK, EC save Denmark and the Far East. Leif Rogersson was responsible for Africa, Australia and New Zealand and the Nordic countries. Bo Wirsén for South America and the Middle East, and finally, Lars Trane for Canada, the USA (shared) and Austria.

The issue of responsibilities for countries was based more on practical considerations than principles (e.g., Lars Halldén spoke German and French, Lars Trane was controller in the US market company in the late 1970s, Leif Rogersson was earlier managing director of the Australian company).

#### *International management meetings*

There was, each fall, an 'Alfa Laval Management Conference', when an international group of key managers gathered (known internally as the Saltsjöbaden conference, as it was



held at the Grand Hotel Saltsjöbaden, outside of Stockholm. The intended move from the often chilly Saltsjöbaden to a warmer location in 1988 prompted a comment in the company journal). It was the only time of the year when such a prominent group of managers was assembled. The composition of the group may be seen as an indication of what Alfa-Laval considered as 'top management'. In 1982, the fall top management conference listed some thirty participants, most of whom were mixed market company managers. It included the two heads of business groups, and no heads of individual product divisions. The fall Top Management Conference in 1987 gathered a much larger group, and with a different composition. It had some seventy participants, and included the business area managers, and the managers of all market companies. Due to the size of the conference, this was an information and discussions forum rather than a forum for decision making. The 1982 meeting was more ambitious in terms of substantial outcome, with in-depth strategy discussions with elements of dialogue.

#### *Cross-border management committees*

As the now corporate management had clearly adopted a cross-border structure based on the divisions, the local or national issues emerged in the divisions. Several examples of internationally configured leading groups of managers in the divisions are observable. For example Agri had a management committee similar to the corporate quasi board but with membership from various countries<sup>42</sup>.

A few details of divisional management practices may be reported. In 1982, the Agri Group instituted a group management committee with three members; the group manager, the administrative director and the head of Agri operations in England. The management committee was indeed international, as the British member did not move to Sweden. In the early 1980s, the Agri management committee had a regional management of international operations similar to the 'governor' system of the corporate management. The practice of such a management committee continued into the business area era. At this point in time Marine and Power had a 'senior council' with international membership. For example, the US Marine and Power representative was a member.

An important coordination and control tool within Agri in 1987 was the management committee nicknamed the "Agri Board". The committee was more or less the "Executive

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<sup>42</sup> see Pitts and Daniels (1984,p52) for a discussion of "world boards" combining functional, area and product managers.

Group Management" of Agri. Members included, apart from Leif Rogersson (MD), the subsidiary managers from the USA, Sweden and Germany, as well as one MD from a smaller market company, rotating on a yearly basis, plus the three divisional managers. This international group met every other month. Meeting-places would shift to different countries. Items on the agenda included the appointment of key personnel. The Agri board existed earlier, at least in 1982, but was referred to as "of no importance". If we increase the level of magnification at Agri, and look at the Agri divisional managers, they apparently had difficulties with the relationship with market companies in 1982. Generally there were strong market companies and relatively weaker divisions. An indicator of this may be the relatively high turnover rate of divisional managers at Agri at this point in time.

### *The dominant coalition*

The composition of what may have constituted the core group of influential managers of Alfa-Laval, or the dominant coalition, has changed over time, despite the relative stability of individuals at the parent company. The early 1970s saw a continuation of the historical relationship between parent company managing director and the managers of the largest and most important foreign subsidiaries.

Over a period of time in the early 1980s the dominant coalition group was considerably larger and more difficult to define. Parent company, divisional and foreign subsidiary managers all had platforms from which they could have a say in the development of the firm. The parent company executive was organized in a large Executive Management Committee, the VL, leading to an informal division into an inner and outer circle, where probably Harry Faulkner, Lars Halldén and Lars Trane should be seen as constant members of the inner circle. The Business Group managers were included in the VL, and the foreign subsidiary managers had officially lost direct contact with the managing director as a result of the 'governor' system. However, Hans Stahle was chairman of the board of directors from 1980, and the mixed market company managers remained in many cases the same as the earlier foreign subsidiary managers. There were no doubt strong informal means of influence for the managers of the big MMCs. Thus, over some period of time, there was a considerable number of managers with partly conflicting interests who could exercise influence on the course of the firm.

Following the restructuring in the mid - 1980s, the fog cleared up and again a smaller group of managers emerged. The VL was reformed to the smaller KL, which partly was a

formalization of the earlier inner circle of the VL but with more corporate job descriptions. Through the changes, especially in the mid 1980s, the foreign mixed market subsidiary managers had essentially lost their platforms and divisional market companies were rapidly becoming the norm for international management. In the new dominant coalition corporate and the largest and most important divisions must be seen as members. As such, in the KL of the late 1980s the formal membership - Kylberg, Halldén, Trane, Rogersson and Wirsén with the addition of the corporate information manager Henriksson - may have been closer to the informal influence than at any point earlier since around 1970.

### **Some company culture projects**

A corporate image advertising campaign that attracted a fair amount of attention was launched in 1981. It focused on the basic values of the company.

An effort to formulate and diffuse an Alfa-Laval 'philosophy' was made in 1984. Centrally formulated and internationally distributed, the message was presented in a small booklet and given to all employees of the corporation. Due to color, shape and obvious reference, it was commonly known as "Harry's little blue". The campaign may have reflected a perceived need to (re-)enforce a sense of common corporate wide mission in the face of growing differentiated interests between the various units at that time. Also, the number of managers had increased to a point where informal transfer of corporate values possibly was more uncertain.

In the later 1980s, initiatives were taken at the divisional level to actively influence of company culture. To boost their sense of common mission and identity for the business area, international business area culture projects were launched by both Agri and Thermal in 1986. Thermal used external consultants to design an extensive program to help in the reorientation towards being a business area with global responsibilities. This had started in Lund, but later included personnel in the MMCs. Business area culture was felt to be of essence also in Agri. In order to overcome the nationalism of previously country-defined operations and to create a supranational Agri, a business area culture project had been started. This included the basic beliefs of the business à la IKEA. The SattControl team spirit and the detailed business knowledge of the management were felt to be important factors in the control of its dedicated subsidiaries. This was basically inherited from the acquired firm.

The local business area managers within the mixed market companies had direct contact with the business area headquarters. The quality of these contacts, reflected in the interviews in 1987, seemed to vary significantly between the business areas, from an all-embracing team spirit to adversaries.

### **On the internal language and jargon**

The taxonomy in use of the firm is itself an indicator of changing practices and priorities<sup>43</sup>. Name changes, regarding organizational units or types of units, or administrative systems or frameworks, have occurred when the magnitude of a shift has been judged to be of such importance that it should be manifested in the wording, in the naming of things. The renaming traced here is a signal to the company from, in most cases, the corporate office.

The parent company itself changed name in 1963, from the original AB Separator, to the present Alfa-Laval AB. Even prior to 1963, a process had begun by which new units were given names beginning with the standardized corporate name. The alfa symbol logotype was added in 1970. From then, the company carried the same name and symbol, presented in the same blue color. The name Alfa-Laval was itself introduced in the middle of the lengthy process of standardizing international units to Alfa-Laval names. For example, the core business companies in Germany standardized their names in the early 1970s, in connection with the move to Glinde, and became Alfa-Laval Industrietechnik and Alfa-Laval Agrar respectively.

The foreign subsidiaries have never been called just that in company jargon, or documentation. In the ERM the word was affiliated company, invoking a federative image of voluntary affiliation to a common concern. During the 1980s, the company jargon has been market company.

During the business group era from 1979 to 1986, the concept of "king of the country" was used to describe the role of the foreign subsidiary manager. Coincidentally, the "king" was to have a "governor" at the head office; a member of the corporate management committee.

In 1970, the changes to the economic planning and control framework were deemed sufficiently major to warrant a change in name, from Economic Reports Handbook to Economic Reports Manual. This was repeated in 1988, when the manual was renamed

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<sup>43</sup>See, for example, Smirchich and Stubbard 1985.

MISAL (Management Information System Alfa-Laval). Similarly, the corporate instruction manual for market company -, and divisional managers was renamed in 1986, from VL instructions, to KL instructions. The corporate management committee has continuously had a semiformal division of responsibility for foreign markets. This corporate contact person was labelled as "governor" in the business group organization, and, more formally, Group Management Responsible, following the business area organization in 1986.

In 1986, there was a change from "British" to "American" titles for managers. The managing director was renamed President and Chief Executive officer (CEO), with a Chief Operating Officer (COO) and a Chief Financial Officer (CFO) at his side. In the original personnel specification for the business area organization, of late 1985, there was a total of 26 vice presidents; two executive vp's, three senior vp's, eleven vp's (heads of group staffs) and ten group vp's (the heads of business areas). It may be noted that no market company manager had the status of vice president.

### **Patterns of social systems development**

The extensive and rapid changes in management structure and administrative control have taken place while conserving and building internal management capacity. The first observation of these aspects of the management systems is the *continuity* in the development. There was a stability of managers during the period studied, especially on the corporate and divisional levels. There was a greater turnover of subsidiary managers, although a fair amount of these seems to have been rotations. There has been an overwhelming dominance of managers of Swedish nationality on the corporate and divisional levels, again counterpointed by the subsidiary managers, who have been of local or third country origin.

The long careers and internal recruiting patterns lead to a conclusion of a *social commitment* to the firm. The core group of managers had virtually fused their working lives with the firm. This is true both of domestic and foreign subsidiary managers, who may have rotated but largely stayed with the firm.

Looking over time the 1970s saw *a new cadre emerging* - the divisional managers. It was a time for forming the divisions and for building the managerial capacity to manage them. Stahle stayed on for a second decade. Faulkner was made deputy managing director in 1971, and Lars Halldén headed the Lund division 1971 to 1978.

There is a series of changes in 1979/ 1980: Hans Stahle becomes the new chairman and Harry Faulkner new managing director; explicit team manager means new *team management style* with greater delegation of tasks in contrast to Hans Stahle's rather centripetal management. Lars Halldén was promoted to manager of the Business Group Industry. Ragner Beyer was recruited, Lars Trane promoted to financial manager of the parent company. From 1979 there was a semi-formal delegation of responsibilities whereby the foreign subsidiaries more clearly were distanced from the contacts with the managing director.

However, the major reorganizations built on internal management capacity. Both the 1979 and 1986 extensive changes in organization structure meant little for corporate management changes. In 1986 Faulkner, Halldén and Trane stayed in the same or similar roles.

During the 1980s, there were signs of a change *from corporate to divisional socialization processes*. It is in this context that the project in 1984 to issue Harry's little blue should be seen. Harry's little blue offered a company-wide philosophy, while in 1987 divisional international culture projects and business area international team building efforts signaled a new focus.

One could possibly discern a *polycentric - ethnocentric backlash - multi-geocentric* pattern over the period studied. In the early 1970s, the main actors were the parent company managing director and major foreign subsidiary directors. Each firmly based in a national location. Thus a decidedly international but polycentric model. With the building of parent company capability and the increasing importance of product divisions during the 1970s - offices that invariably went to native Swedes - it may be correct to suggest that a movement towards ethnocentrism had occurred. With the mid to late 1980s development, the cross-border-defined product divisions/ business areas increasingly formed international networks. Thus the firm as a whole came to be constituted of a series of internationally defined product areas, to several of which the label geocentric no doubt was applicable.

## Chapter 5

### ALFA-LAVAL; BUSINESS-, TECHNOLOGY- AND OPERATIONS DEVELOPMENT

*Size and profitability; technologies and products; competitive environment; markets and geographical diversity; international operations; physical location; business- and operations development.*

Approaching 1970, the value-adding activities of the firm were still organized by country as they had been from the early days of the century. Purchasing, production, research and development were located where there was a critical market size. Likewise, marketing, logistics and after-sales service were all concerns of the local country administration. International operations were multi-local with varying practices and duplicating or overlapping activities. The core technologies and components were mature, with quite successful ventures into small-scale systems during the 1960s. Overall, a relatively limited product diversification save for some bushiness in unrelated activities on local markets, non-domestic as well as domestic. Product development was carrying on the tradition of internal product development. Apart from having direct contacts with its users, the firm was in a broad sense vertically integrated backwards, with factory works and in house supply of mostly high as well as low value-added components. The company had a long-term stable international oligopoly as its competitive situation and a stable market presence in Europe and North America.

This chapter will describe the changes made in the structure of the businesses, the technologies in use and the value adding operations of Alfa-Laval during the 1970s and 1980s.

### Size and profitability

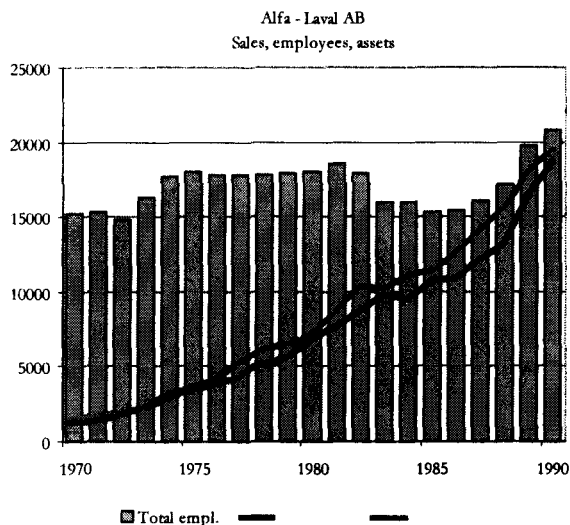


Figure 5.1 Alfa-Laval, sales, employees and assets, 1970-1990.

Source. Company annual reports, documentation.

During the 1970s and 1980s, net profit largely grew at an equal pace with turnover. At no time during this period did the company report a loss on the corporate level. However, the firm was overcoming some problems in the early seventies and experiencing a sudden and substantial decline in profitability in 1984. The 'crash of 1984' was eventually followed by a recovery in the late 1980s.

Some of the fluctuations in profitability may be put down to changes in the institutional environment. In the late 1970s, and in both 1981 and 1982 the Swedish currency was devalued. In 1982, the new socialdemocratic government imposed a(nother) devaluation of the Swedish krona by 16 per cent. For a market-leading firm, the ensuing relative price advantage vis-à-vis non-domestic competitors does not necessarily translate into increased market share and volume, but rather as increased nominal profitability. No doubt, parts of the profits of 1982 and 1983 may be ascribed to the devaluation. A rationalization



campaign was also under way in 1982/ 1983 curbing the development of costs. The combined effect of internal rationalization and devaluation gains led to the "record year" of 1983.

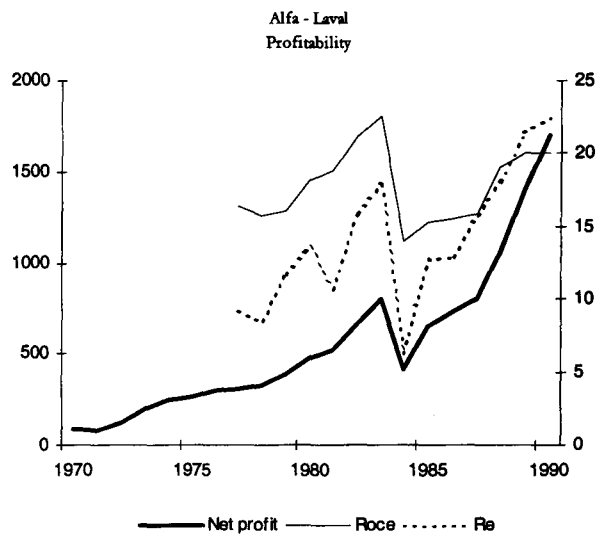


Figure 5.2. Alfa-Laval, net profit, ROCE and Re, 1970 -1990.  
Source: Company annual reports.

A major event during the time studied was the sharp, sudden and for most observers unexpected decline in profitability in 1984. The crash of 1984 above all hit for the agricultural business of Alfa-Laval, as it was triggered by European Economic Community decisions to curb overproduction of milk and related products. Agriculture in Western Europe remains highly regulated and sensitive to changes in the institutional environment. It is a sector of the economy that has remained the worst headache of the EU (as well as of the GATT negotiations) and initiatives to address the issues have been stalled by powerful farmer lobbies. In practice, EU action has been somewhat ad hoc. In the spring of 1984, changes in regulations made the milk farmers stop purchases virtually over night and the result for Alfa-Laval and for its agriculture business was a near disaster. An Agri manager ex-post characterized the situation:

*"1983 was boom, 1984 was crash, 1985 and 1986 were cut."*

Because of the vertical integration of the company and the underlying dependency on milk products other parts of the firm were affected. Less milk sold lead to less farm supplies and less farm systems sold; less milk means less dairy activity which leads to less components sold as well as less systems design.

The EU-related issues also coincided with losses from large turn-key deliveries of around 100 MSEK, adding to the profitability problems in 1984. Not only were outside observers surprised but also for the management of the company, the 1984 events came virtually without warning, after twelve years of increasing profits.

The problems lead to a reevaluation of policies and acted as a major impetus to the corporate strategic and organizational changes of the years to come. This resulted among other things in the corporate reorganization into business areas in 1986, which will be described in the next chapter, and a change of policy in favor of decentralized, product division-related acquisitions. The effects of restructuring, rationalization and acquisition of profitable activities contributed to the profitability as well as to the regained growth in the late 1980s.

The profitability for product/market areas has varied over time. There have been periods when the agricultural markets have been the main source of profits, others when the industrial sector was more important in this respect. Overall, the seventies was a good decade for agricultural equipment, and less so for the industrial activities, while the reverse was true during the first part of the 1980s. Following the mid 1980s problems and ensuing restructuring, the late 1980s was a profitable period for most of the businesses.

## **Technologies and products**

Looking back at the history of the firm, there was a significant continuity of technologies over the years, focussing on the continuing development of core components. With a beginning of systems design in the 1950s, the systems "*added value*"<sup>44</sup> strategy was to have profound effects on the firm in the years to come. Building on the technologies needed for systems deliveries, the 1970s and 1980s saw an accelerating departure from the dependency on traditional core components.

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<sup>44</sup> Hans Stahle, DI, may 3, 1977.

### *The continued importance of the core technologies*

Three core technologies continued to form the basis of the company's product offerings: the centrifugal separator, the plate heat exchanger and the milking machine. Around these basic techniques, a number of applications generated a series of products. The technologies were long since mature, with well known technological features and with production process difficulties being greater than difficulties with the product itself. Over the latter decades the technologies were improved and new product generations launched on the market, but no major technological breakthrough similar to the self-cleaning separator of the 1950s occurred. Instead novelties were introduced in the surrounding and related technologies such as electronic systems control.

The core technologies and operations displayed the expected importance of the production process rather than a focus on product features. For example, the modern PHE used wear- and corrosion resistant metals, such as titanium, and was used in a wide range of applications. Seemingly simple in conception - a series of metal plates clamped together - the difficulty of the production process of the plates constituted a barrier to entry, and the production of PHE plates has been centralized to the Lund plant for most of its existence. Production of frames and assembly has been carried out at several places. The service and maintenance of the industrial PHEs had also evolved into a technologically sophisticated operation by the late 1980s<sup>45</sup>.

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<sup>45</sup> To exemplify the latter, the plate heat exchangers need extensive repair, so called regasketing, every 3 or 4 years, depending on usage. In order to provide quick service to shipping clients, the regasketing plant in Holland - located in Rotterdam- maintained an all night service and could completely regasket and reinstall a plate heat exchanger in 24 hours. It included the following steps: -deep freezing to -157C to remove old gaskets, -ultrasonic cleaning of the plates in fluid, -searching for cracks using flourescent light, -mounting new gaskets, -vulcanization of new gaskets. The technology had successively been developed in Lund, Brentford in England and in Holland, and by 1987 was also used in Singapore.

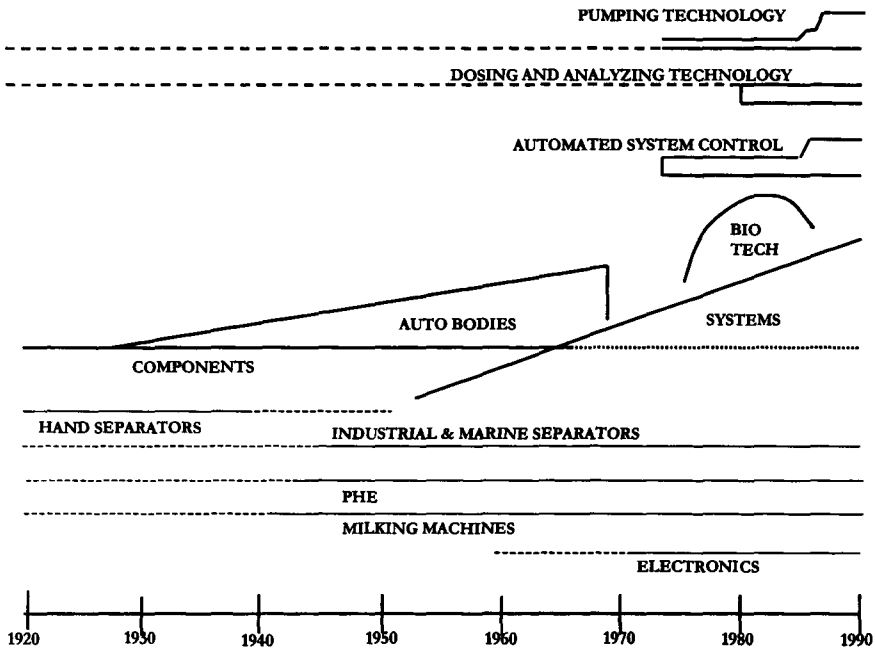


Figure 5.3. Alfa-Laval, Outline of long-term major technology development<sup>46</sup>

Source. Adapted from (Fritz 1983), documentation and interviews.

Successive revitalization of core technologies and the core components remained one of the fundamentals of the competitive strength of Alfa-Laval, and at the heart of the company remained two organizational units responsible for core component development and manufacturing: *Separation Engineering* and *Thermal Engineering*. Mechanical separation and plate heat exchange were, however, mature technologies and their market growth over the latter decades had been slight. Beginning in the 1950s, the firm sought new ways to grow.

*Systems; 'functions', 'processes' and 'contracting'*

<sup>46</sup> This image is drawn to provide a representation of the main development lines in technology development of Alfa-Laval. The figure is not immediately based on turnover figures or any other measurement.

Alfa-Laval had sought ways to build systems around the core technologies from the 1950s. With an order based on increasing software content, these efforts continued, and focused on, firstly, 'functions', i.e. smaller systems for a defined need, and, secondly, the construction of large-scale integrated systems - 'processes' - that sometimes have been of a turn-key nature. The development of the latter gained strength during the 1970s. The company also engaged itself in a 'contracting' business for a period of time, producing complete turn-key plants unrelated to the core technologies.

The pioneer in systems orientation was *Agri* - the milk farmer-oriented unit of Alfa-Laval. With the milking machines as the core product the milk farmer was, for example in the US, approached early on by visiting de Laval sales representatives driving the truck stacked with products. The credo of *Agri* became "*all that the farmer needs*" and the modern *Agri* sold both custom-designed milking stalls and computer-controlled feeding systems as well as supplied the milk farm with a wide range of products and consumables such as detergents.

The dairy and industrial functions orientation was developed in the 1950s, and remained an important business throughout the years. The larger 'processes' required more time to grow into an important volume of business although deliveries were made in the early 1960s. The semi-standardized functional solutions and custom designed production processes developed into important areas for Alfa-Laval. Lars Halldén in 1983:

*"...within the Business Group Industry the "production" is to only around 50 per cent made up of component sales. The rest is engineering work - design and development of production processes."*

Overall, it is fair to say that Alfa-Laval had its fair share of trial and error in learning to design, sell, organize and monitor these very large systems. Large turnkey deliveries can be spectacular projects in terms of both publicity and problems. For example, the SAADCO project in Saudi-Arabia - a complete 3600 head milk farm with dairy - had both of these qualities including extensive press coverage, losses and legal battles. The large systems, especially those of a turnkey nature, peaked in recognition in the early 1980s. However, deliveries of processes of a non-turnkey nature remained an important business, such as a yogurt plant for Gervais-Danone in France that was finished in 1987. For this particular project, Alfa-Laval supplied a substantial part of the process equipment but the process line was designed by the client. The automation system was supplied by Alfa Laval and required cooperation between several organizational units, both in Sweden and in France.

From the late 1970s to the early 1980s, Alfa-Laval also ventured to sell the knowledge of production systems in itself, through large-scale contracting. This internally developed effort of designing systems essentially unrelated to the core businesses, was an attempt to reap gains from the accumulated knowledge in large-scale systems design. As Hans Stahle put it in 1977:

*"..our contracting competence - and it is big and unique - may come to be tested in new and untried fields not associated with our process technology or systems but only related to our present knowledge in building and monitoring big complicated contracting projects."*

As such, the 'contracting' business was a reasonably logical extension of the 'functions' and 'processes' work, and of the historical pattern of marketing-gained competence. The work was partly organized through a London based unit - Alfa-Laval Contracting - and had no effect on the earlier existing international management structure of national subsidiaries. The contracting work was little known outside of the company and significant losses in the early 1980s drew headlines in the business press. Contracting met with difficulties especially in connection with a large refrigeration project in Algeria which incurred losses in the vicinity of 100 MSEKnom, and the London based contracting unit was first moved to Sweden and eventually closed in 1984. Again, unrelated business had proved an unfruitful road for Alfa-Laval. Instead, the core component related systems - of varying size - became the successful route.

#### *Systems and international integration needs*

The food production systems were to a large extent unique for the customer and required significant design work by skilled engineers. The systems also contained local purchases of lower value-added products. What Alfa-Laval brought into the process was both design skill and core components. In this respect, Alfa-Laval built both on scale advantage in components and design knowledge responsive to the individual, local customer. Component sales required local adaptation but in modern times to a much lower extent than systems. An example of component adaptation was the bigger PHEs in the US, which were uniquely specified, but assembled from existing components - i.e. a

modularization of the product<sup>47</sup>. Some minor details were unique for the US, such as loops welded to the unit for fastening the PHE with chains during transport.

Systems increased the need for cross-border learning. Systems designers are highly skilled personnel working with a limited number of objects. Especially objects within industries are limited. Looking at the brewing industry, Alfa-Laval had at one point in time three brewery experts in an international group made up of a Swede, an Englishman and a German. In the 1970s Alfa-Laval developed a continuous brewing process - Centribrew - which was a technological success. After seven years of developing the process, it won an industry award in 1977. However, commercial success was slight, allegedly because of conservatism in the industry and resistance from brewers.

The change in relative importance from component sales to systems design - especially the larger, custom-designed processes - has had a profound effect on the need for international coordination of activities, and consequently on the design of the international management systems.

#### *Related technologies expansion*

The later developments saw an increase in the number of technologies in use in the company, added at an accelerating pace during the 1980s. These have originated as a response to the needs of the systems design approach of the firm, and may be conceived of as 'support activities' of the systems idea allowed to be developed into stand-alone ventures. Many of these activities were ultimately the fruit of the 1970s and the emerging systems orientation of the company, although visibility was gained in the 1980s. Some have been developed into separate businesses and formed stand-alone business units. Precision measuring, dosing, analyzing and mixing equipment for food processing lines were added; a corporate acquisition of German Bran + Lubbe in 1981 provided a major step with later acquisitions - notably Technicon - that added competence. Alfa-Laval called this unit *Dosing and Analyzing*. For the customers in the foodstuffs industrial sector, electronic systems control was added as a result of internal development to support the design of entire food processing lines. A department with this purpose was set up in 1974, and eventually, chiefly as a result of a major acquisition of the Swedish, Malmö based company SattControl in 1986, developed into a business unit called *Automation*, supplying automated production

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<sup>47</sup> See Hout, Porter and Rudden (1982) for a discussion on modularization in global products.

systems control for a wide range of industrial users, including the car manufacturer Volvo. The high quality 'pumping and plumbing' needed for food production systems also expanded into a stand alone business for the company, called *Flow Equipment*, as a result of a series of international acquisitions of which the most important in 1986/ 87. It is interesting to note how the company returned to its historical roots and expanded interests in fields that were identified in the previous chapter.

Over the 1980s, Alfa-Laval invested in the biotechnology field, in various ways and with different degrees of success. Alfa-Laval bought a share in the American firm, Genentech, and invested in a share of the Swiss company, Chemap, makers of fermentation systems for the biotech industry. A joint venture, AC Biotechnics, was formed with Cardo, which was eventually transformed into a joint venture with Pharmacia, under the name of Biolink. The organizational solutions, and the visibility, of these efforts varied over time, the peak in recognition probably being the two years, 1986 and 1987, when *Biotechnology* enjoyed the status of corporate business area. However, the biotechnology field did not fulfill the hopes of new growth for Alfa-Laval. The major part of the Genentech stock was sold in 1987, albeit at a good price. The joint ventures were dismantled and Chemap became wholly owned in 1987. The business area Biotechnology disappeared as of 1988, and Chemap was restructured and listed as one of the 'Other companies'. The biotechnology effort was largely handled in organizational structures outside the old international subsidiaries, and its effect on the evolution of the international management systems was limited.

In the late 1980s, Alfa-Laval built a strong position in equipment for *convenience food processing*, again through a series of acquisitions of which a substantial part occurred in the US. This added a number of activities not centered around the old core technologies. Overall, the proportion of sales generated directly from the traditional core technologies of separation and plate heat exchange decreased substantially. This development towards relatively less important core technologies provides an important feature of the background to changes made in the international organization.

#### *From internal development to acquisitions*

In modern times, through the 1970s and up until 1985, there was a strong tradition in internal development of new products and markets. Hans Stahle said in 1976:



*"Our acquisitions policy has been crystal clear and logical. We will ourselves or through subsidiaries only manufacture strategic components or technically advanced designs. And we shall not acquire competitors. We will beat them in the field"*<sup>48</sup>

Actually, Stahle had a few years earlier, in 1969, acquired the age old Danish competitor Titan, founded in 1897, but this was rather an exception to a rule that was in force until the late 1980s and possibly a defensive move to prevent competitors from acquiring Titan<sup>49</sup>. One effect was a strengthening of the marine separator business. In the early 1980s, business press repeatedly asked for aggressive investments and acquisitions, which management representatives also led the financial community to expect. In practice however, no radical change was discernible before the mid 1980s restructuring that followed the 1984 problems. In 1986, there was an explicit change in policy in favor of acquisitions as a means to support growth. The new policy was to decentralize the acquisitions initiative and to concentrate the efforts at the then installed global product divisions, rather than to search for major corporate acquisitions. The policy change resulted in a great number of acquisitions of varying size, and it is clear that the acquisitions, especially the related acquisitions on the product division level, were very important for the growth of Alfa-Laval in the late 1980s<sup>50</sup>. In fact, from 1985 to 1989, Alfa-Laval acquired 22 companies with combined sales of around 4 BSEKnom. The number of employees rose from 15 000 to 21 000 in four years.

The public statement in the annual report for 1986 comments upon the policy change towards acquisitions and the intent of Alfa-Laval management. In the words of the then managing director, Harry Faulkner, the strategy was encompassed in the words *"niche competence"* and *"global market dominance"*<sup>51</sup>. There was stated a need for a better balance between mature and growing businesses in the corporate portfolio. The strength of the portfolio was stated as *"dependable, cash-generating business areas with limited investment needs"*<sup>52</sup>; the weakness was the limited expansion possibilities of these business areas due to low market growth rate in combination with high market shares. Acquisitions were being carried out to correct the imbalance, and to provide growth opportunities. The acquisition strategy was based on the criteria of niche competence and global market dominance. Also,

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<sup>48</sup>Cited in Veckans Affärer, 1st July 1976,p19. My translation.

<sup>49</sup> Fritz (1983)

<sup>50</sup>See Appendix for a listing of acquisitions.

<sup>51</sup> Annual report 1986,p4.

<sup>52</sup> (ibid.)

the acquisitions were considered as a means to concentrate the businesses of Alfa-Laval, and not to increase the diversity.

The acquisitions policy should also be seen in its institutional context of changes in Swedish regulations. As Sweden had a long-standing foreign affairs policy of 'non-alliance in peace, aiming at neutrality in war', formal membership of the EU was regarded as a political impossibility up until the very late 1980s. An indirectly related protectionist policy was the restrictions on export of capital for foreign investment. Given the success of the Swedish international firms, one may be inclined to disregard the effect of the policy on competitive power. However, the Swedish business community lobbied against it, and the managing director of Alfa-Laval, Hans Stahle, noted that

*"the problem of a MNC is to have the money available where the opportunities are"<sup>53</sup>.*

In the mid 1980s, substantial capital reserves, partly because of gains following devaluations of the Swedish currency in the early 1980s, were dammed up in Sweden as a result of the restrictions on capital flows from Sweden. Capital markets were deregulated during the 1980s, after which followed an unprecedented series of acquisitions by Swedish MNCs of continental European companies. Alfa-Laval was very much part of that wave of non-domestic acquirers in the late 1980s. The key firm-specific decision was to decentralize the acquisitions programs to the global product divisions, i.e. the Business Areas.

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<sup>53</sup> Annual report 1974.

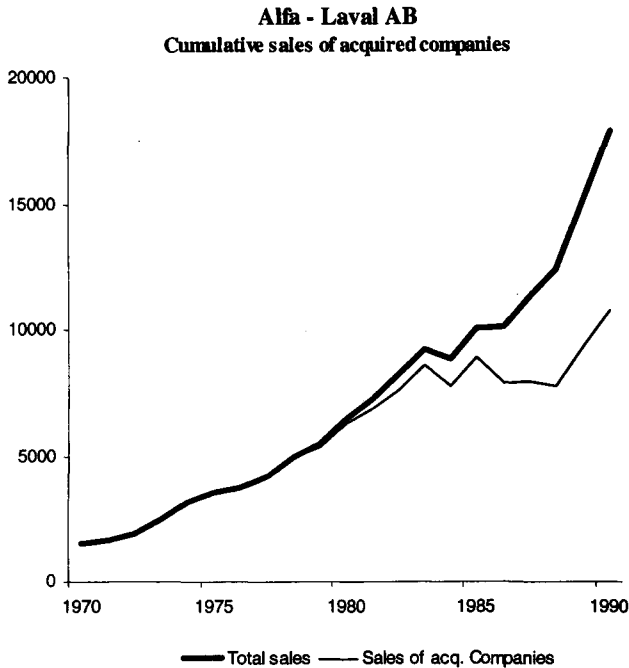


Figure 5.4. Alfa-Laval, cumulative sales of acquired companies 1970-1990.

Source: Company documentation.

Some activities and companies have been judged related at some point in time but later divested. *STAL Refrigeration* was acquired in 1973, with the intent of combining STAL's refrigeration knowledge with the cooling compressor manufacturing at Bergedorf. However, the cooperation never quite materialized and STAL Refrigeration was sold to ASEA in 1983. In 1979, Alfa-Laval acquired *Ewos*, a company related to the agriculture business and devoted to animal health and nutrition. However, despite relatively successful development Ewos was divested in 1987, and the reason stated was that the development had taken place "*in areas without relationship to other Alfa-Laval businesses*".

The acquisitions made were to varying degrees integrated into the existing operating structure of Alfa-Laval. Some companies kept their pre-acquisition structure intact, for example Bran+Lubbe, acquired in 1981, and SattControl, acquired in 1986, although SattControl was merged with the smaller Alfa-Laval Food Engineering unit with similar scope and competences that had existed since 1974. Some acquired units were combined into new units, e.g. the Business Area Flow Equipment which was formed in 1986, on the

basis of a department existing in Lund since 1973, and built around acquisitions of among others TriClover (United States), Reginox (Brazil) and Saunders (United Kingdom). Some investment programs never acquired corporate level visibility, such as the substantial investments in convenience food production systems and equipment from 1987 that was part of Food Engineering.

With reference to the international organization, it is important to note that the acquired companies were rarely integrated into the traditional international management structure of the Alfa-Laval national foreign subsidiaries. As examples, both corporate level acquisitions such as Bran+Lubbe and product division level acquisitions such as Euroheat (acquired by Thermal Engineering in 1986) retained their own market channels. With the implementation of the acquisitions policy in the late 1980s, and the formidable explosion of international acquisitions that followed, the remaining relative importance of the traditional foreign subsidiaries as market channels rapidly decreased. Overall, the acquisitions policy had some fundamental effects on the international management practice, not least by circumventing the old structure of country-specific foreign subsidiaries. The added products did not replace the maturing core technology products in the foreign subsidiaries, but instead were sold through alternative market channels.

#### *Product diversification pattern*

For most of the company's existence, the diversification pattern of Alfa-Laval was related constrained<sup>54</sup>. The firm was centered around a limited set of core technologies for which a great number of applications were found, successively adding support products, and thus increasing the scope of the firm's activities. This related constrained development led to a company of significant product/ market complexity, both in number and in interdependencies between organizational units. As a point of reference, an internal Boston Consulting Group study in the early 1980s defined 140 single business units for corporate portfolio analysis in a growth/ share chart. However, a key characteristic of this product portfolio was its interdependent nature<sup>55</sup>, and in the early 1980s, very few of the units were complete stand-alone single-business units. The multiple technologies used in many

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<sup>54</sup> Rumelt (1974)

<sup>55</sup> Which strictly speaking defies the use of a growth share matrix as it assumes independent units (see for example Henderson 1982).

applications and in a great number of regions led one manager in a foreign subsidiary to conclude that Alfa-Laval in the early 1980s was:

*"...a global federation of 10 M\$ businesses."*

The development over the 1980s, with the turning point in 1985, breaks with the earlier pattern of related constrained diversification, and introduced a diversification pattern that was related linked. The Business Areas strayed from the common technological core and developed new businesses yet further from the core, such as the production systems for convenience foods, and electronic production systems automation for non-food industries.

Over the years, the company was rather conservative in its diversification practice, with few unrelated diversifications, and several occasions when unrelated businesses have been divested. On the other hand, Alfa-Laval always had a group of activities listed as 'other'. This was a group of unrelated companies that for various reasons were kept, some because of development prospects and some because of their profitability. Electric power producing Olofström Kraft was an example of the latter. By the very nature of the "other" companies class, the composition of companies in this category has varied substantially over time. From 1979 to 1984, this group received a more prominent position than otherwise, with a dedicated manager for the group of firms (although he was 'lent' to the US subsidiary from 1979 to 1983 and managing director Harry Faulkner assumed responsibility for the group), and the 'Other' category also became relatively larger than either previously or thereafter. This experiment in what seems to have been portfolio planning was abandoned in the late 1980s, and the activities sold or restructured.

### **Competitive environment**

The stability of the international oligopoly of Alfa-Laval, Westfalia and APV remained throughout the 1960s, while the 1970s saw increasing and new competition in core components-related activities. Following the 1970s restructuring of the international shipbuilding industry towards the Far East, Mitsubishi of Japan established a foothold in marine separators - partly as a result of a license from the old German competitor Westfalia. Also during the 1970s, Japanese Hisaka entered the market as a competitor in plate heat exchangers. In the US there had been since the 1970s a new strong national competitor in PHEs in Trenter, sharing the majority of the market with Alfa-Laval. From

the entry and consolidation of the Japanese and throughout the 1980s, the competitive situation in core components was relatively stable, with Alfa-Laval, Westfalia and Mitsubishi in separators and Alfa-Laval, APV and Hisaka in PHEs.

It seems that the nature of the separation and PHE business is such that in the long-term, it has favored size and scale, and oligopolistic industry structures. Overall, Alfa-Laval has enjoyed high market shares in its selected segments, although the growth rates in many markets have over time become stagnant or declining in volume.

The development of Alfa-Laval from the mid 1980s, led to the incorporation of new technologies and markets, and to new competitive situations. Sharples was acquired by Alfa-Laval in 1988, which meant that Alfa-Laval virtually took a worldwide grip on the market for decanter centrifuges. Following the acquisitions of late 1980s, Alfa-Laval regarded itself as the leader in separators with twice the turnover of Westfalia, as well as in plate heat exchangers, with five times the output of either Hisaka (Japan), GEA (Germany) or Vicarb (France). New competitors include, for example, in electronic systems control German Siemens, French Telemécanique, Swiss/Swedish ABB and Japanese firms and in flow equipment, American Cherry Burrell. A series of acquisitions of manufacturers of equipment for convenience food has made Alfa-Laval the leader in this particular segment of food processing lines, and again led to new competitive situations.

The arriving product and geographical diversity, together with extensive vertical integration, and systems design as well as standard product sales, created a company of significant product and market complexity. Consequently, Alfa-Laval was engaged in a rather complex competitive situation involving both local and international competitors, some of which were very strong locally or regionally, such as Trenter in the US. During the late 1980s, it is increasingly difficult to describe the competitive situation as 'Alfa-Laval's' competitive situation, as product diversification brought Alfa-Laval into new industries and up against new competitors. Instead, the company in the latter half of the 1980s, faced an increasingly diverse set of competitive environments, of which several may be characterized as 'global' in that they were cross-border.

Overall, the competitive situation for Alfa-Laval was quite stable for a long time. An international oligopolistic situation, of a multipoint nature, with the same main competitors from the 1930s up until the present day, and some elements of specializing and addressing different market segments between the firms (ex. Westfalia was stronger on chemical industry, Alfa-Laval stronger in marine separators), the competitive environment must be characterized as being reasonably stable and predictable for a long time. This changed in the latter decades, first with the Japanese entry in the 1970s, and accelerating from the mid

1980s with the acquisitions policy. Alfa-Laval made acquisitions of specialized separator makers, notably the Sharples acquisition in 1988, which changed the map of the industry, but perhaps more important in terms of the complexity of the management task are the acquisitions and investments into related areas that brought with them new competitive situations. Biotechnology, dosing and analyzing, the acquisitions that led to the flow equipment business area, electronic automation and the convenience food investments have all led Alfa-Laval into new competitive environments. From a corporate perspective, the competitive situation of the company grew very complex, including some areas with a very dynamic situation.

### **Markets and geographical diversity**

The company always had a very large portion of its sales in non-domestic markets. Interestingly, the most important countries in 1885 were still the dominating markets for the company, one hundred years later. Scandinavia, the countries of the European Union and the United States remained the most important markets. One reason for this was the continued underlying dependence on milk production and milk-related products. In modern times, the regional distribution of sales exhibits a fair amount of stability. Non-domestic markets increased, relatively, at the expense of the Swedish, which declined from 17 per cent in the mid 1970s to just over 10 per cent in the mid 1980s. The European markets were taken together by far the most important for Alfa-Laval. They remained so throughout the period, although decreasing from over 75 per cent of sales in the mid 1970s, to some 60 per cent in the late 1980s. The Americas, of which the United States made up for the great majority, and south-east Asia were regions of growing importance for Alfa-Laval.

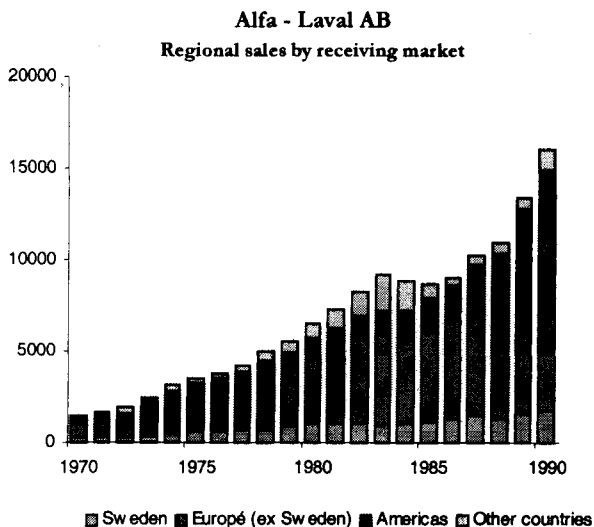


Figure 5.5. Alfa-Laval, regional sales by receiving market, MSEK, 1970-1990.  
Source: Company documentation.

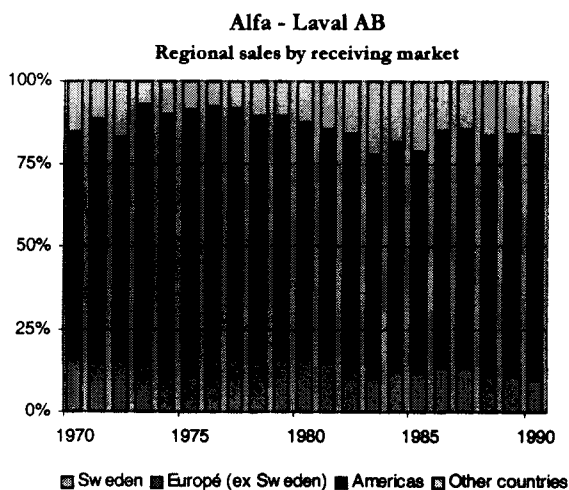


Figure 5.6. Alfa-Laval, regional sales by receiving market, percent, 1970-1990.  
Source: Company documentation.



There was, interestingly, roughly the same total number of employees in 1986 as in 1970, although with a peak in-between. With the change in policy towards acquisitions in 1986, the number of employees then increased from 15.000 to 21.000 in four years.

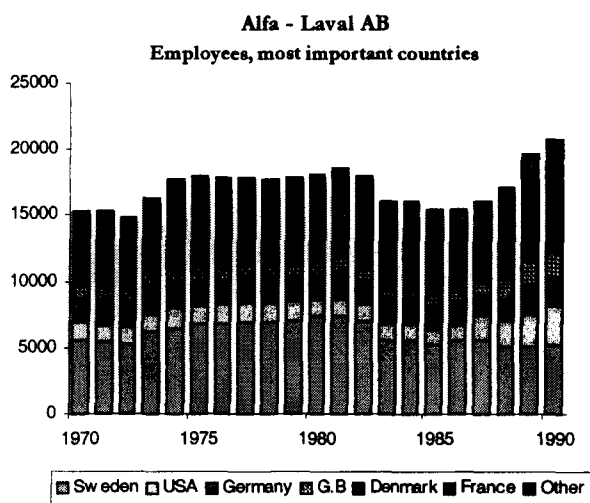


Figure 5.7. Alfa-Laval, number of employees in important countries, 1970-1990.

Source: Company documents.

The geographic distribution of employees shows both continuity and change. There was a relatively high concentration in employment to a few countries. Six countries - Sweden, Germany, France, the USA, Great Britain and Denmark - represented close to 80 per cent of the workforce throughout the seventies. The concentration to a few countries decreased over the 1980s<sup>56</sup>. The changes between the six countries were more interesting, and offers an insight into the level of restructuring and rationalization that took place over the 1980s.

<sup>56</sup> Occasionally for technical reasons: the Indian company Vulcan-Laval, which previously was a minority holding and not included in the reports, was included as of 1988 with over 1000 employees.

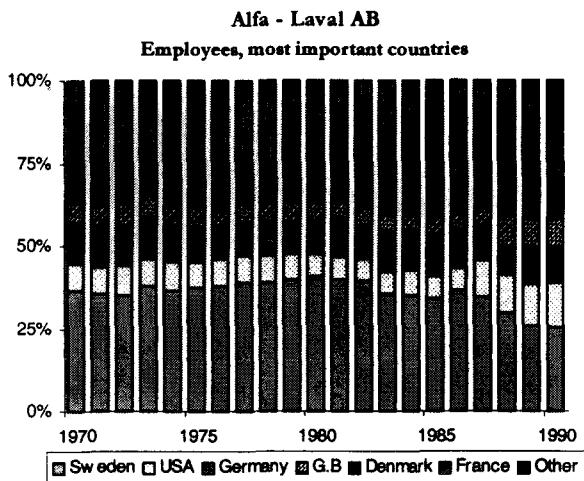


Figure 5.8. Alfa-Laval, employees in important countries, percent, 1970-1990.

Source: Company documentation.

The most striking feature is the reduced relative dependency on the Swedish workforce. Sweden represented alone 35 per cent in 1970, a proportion that actually increased up until 1980. The 1970s trend towards Swedish dominance was broken in 1981. The proportion of Swedish employees decreased from almost 40 per cent in 1980 to 25 per cent in 1990, the result chiefly of rationalizations in Swedish facilities and of foreign acquisitions that reduced the relative proportion of employees in Sweden. The French operations, which included substantial manufacturing operations in the early seventies, were rationalized and restructured, which led to a substantial decrease in both absolute numbers and relative proportion of employees. The German activities were also restructured and rationalized although the country remained important in terms of employees. On the contrary, acquisitions in Denmark, Great Britain and the US increased the number of employees in these countries, both absolute and relatively. The expansion in the United States in the late 1980s was particularly substantial.

There was throughout the years a distinct concentration of foreign production to Western Europe. In 1970, 73 per cent of non-domestic blue collar employees were in western Europe; 18 per cent in North America and 9 per cent in the rest of the world.

### *Customer groups*

Alfa-Laval employed a customer group-oriented way of presenting its businesses for a long time. Activities were divided into sales to *agriculture*, i.e. milk farmers, sales to *food industry*, of which deliveries to dairies was a major part in the early 1970s, and finally sales to other *industrial* uses.

The agricultural sector represented a decreasing part of the company's sales over the two decades, from a peak of 35 per cent in the early 1970s to some 20 per cent in 1990. Since the farmers in the west have since long stopped buying hand separators, milking machines provided the traditional backbone of the sales to milk farmers.

Apart from the agricultural category, the classification employed by the firm was relatively heterogeneous, and became increasingly so from 1970 to 1990. The categorization of sales built on a broad classification of customer groups, and sales for industrial uses was built up of a multitude of activities of increasing complexity over the two decades. It was the Industry category that contributed most to the regained growth of Alfa-Laval from the mid 1980s. The Food category included not only dairy sales, which were a prominent part in the early 1970s, but increasingly other customer groups, such as convenience food production equipment companies.

The customer base of latter day Alfa-Laval was very diverse, spread geographically and across industries. The buyers were professional, purchasing for milk farms, dairies, breweries, vegetable oil production, chemical plants, shipbuilding and other industrial uses. The customer group distribution of sales discussed earlier provides some insight into the relative importance of various industries, although only the agricultural sector is homogeneous. As we saw earlier, the customer base in terms of industries widened considerably over the late 1980s.

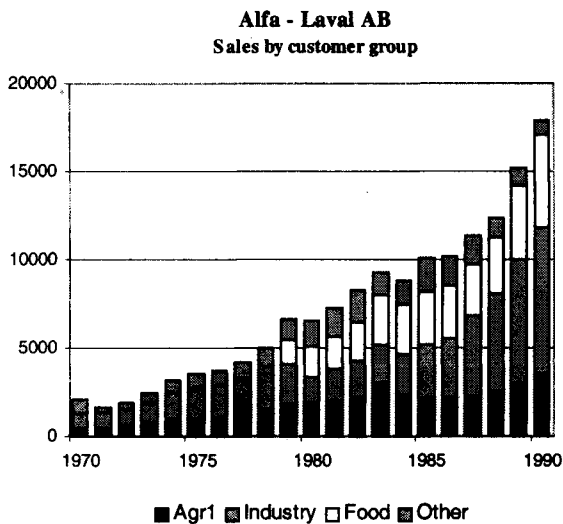


Figure 5.9. Alfa-Laval. Sales by customer group, MSEKnom, 1970-1990.  
Source: Company documentation.

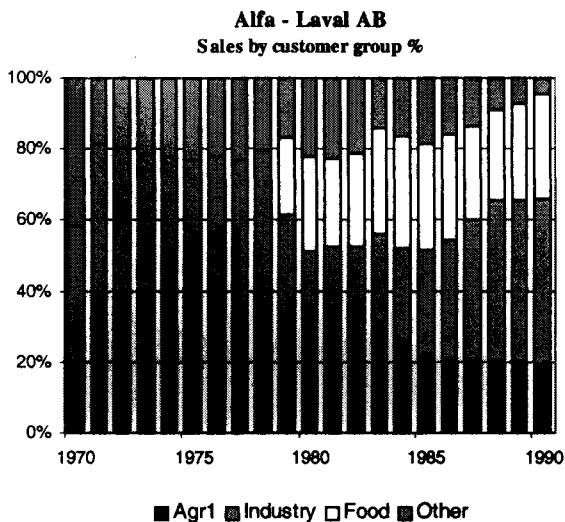


Figure 5.10. Alfa-Laval, sales by customer group, percent, 1970-1990.  
Source: Company documentation.

## International operations

The company had a history of country-oriented localization and organization of international operations - R&D, manufacturing, logistics, marketing, new sales and after-sales service and spares<sup>57</sup>. Following the Second World War the core components<sup>58</sup> had also been dispersed to some extent and the company essentially decentralized; an order that remained into the 1970s. Local products were developed in a locally responsive manner and resulted in variation in what was produced, combined with duplication of efforts. The 1970s and 1980s saw a rationalization of the bushy operations and a concentration on core competence which led to standardization and less complexity. However, the addition of new technologies in the latter 1980s led to a dispersed international operations structure, and to a new, different complexity.

### *Coordinating product development and manufacturing in specialized units*

For a long time, there was little coordination of production in the geographically dispersed plants. Up until 1968, there was a production manager in the parent company, but responsible for the Swedish factories only. Following the 'sectorization' in 1968, the Swedish production units were divided between the product divisions. After a year or two of domestic consolidation, the divisions started to look towards the international units. A few acquisitions in Denmark triggered the process of international influence of the divisions on production. Titan, maker of separators and decanters, was acquired in 1969, and was made part of the Separation division, not of the local subsidiary. Another two acquired Danish firms, Höyer, in 1967, and Lavrids Knudsen in 1971, came to be organized as part of the now formed Lund division. These were the first foreign units to report to a product division instead of to the local country manager.

During the 1970s, product divisions gained control over the international core product development and manufacturing, the activities came to be integrated, coordinated and performed at a limited number of units. There was a successive but varying strengthening of the product divisions in influencing international operations during the 1970s. The

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<sup>57</sup> As should be evident, in this piece the firm is studied as a value-adding process, as proposed for example in Porter's (1985) value chain model.

<sup>58</sup> See Prahalad and Hamel (1990)

market companies came to be more and more dependent on the Swedish based product divisions, for skills and expertise.

One of the key factors behind the regained Swedish parent company control, through the forming of product divisions, was undoubtedly the recentralization of technology development. Very early in the life of the firm, the technological initiative moved from the parent company to the foreign subsidiaries. As outlined earlier, key development work was done in the foreign subsidiaries, with prominent examples being the import of the alfa-patent from Germany, the development of the milking machine in the US and the later, pre-World War II, initial development of the PHE in Germany. For an extended period of time it was the foreign subsidiaries and not the parent company who were leading the technological development in Alfa-Laval,

The developments are strongly underscored in a study based on the US patenting records and studying the practice in a broad set of Swedish MNCs as well as probing deeper into the case of Alfa-Laval (Zander 1994). Not only was the early shift of technological innovation to the foreign subsidiaries evident, but was followed by a wave shifting initiative back to the Swedish units. After the Second World War the patenting by Alfa-Laval reveals a drift back to the Swedish units (Zander 1994, p232). To some extent this seems to have been an 'exchange' between Lavalco in the US and the Swedish parent company. Zander (1994) discusses the reasons behind the shifting location of the technological initiative, but remains cautious as to the fundamental reasons; whether a decline in the capacity on the part of Lavalco or an intentional policy to regain control on the part of the Swedes. Regardless of the reasons, in effect the innovative technological initiative swung back to the Swedish units after an extended period of dependence on the non-Swedish units for technological development.

When I asked why the foreign subsidiaries actually accepted the parent company interventions and subsequent cross-border integrative actions in the 1970s, Lars Halldén quite bluntly answered:

*"we had the technology."*

As a consequence of the growing control the parent company units were able to exercise, international production was coordinated, rationalized and specialized in a series of efforts from the mid 1970s to the late 1980s. As a visible effect, the number of foreign blue-collar workers decreased in the 1970s, due especially to rationalization of production in Germany and France.

Along with specialization of core component production resulting from local market characteristics, the foreign subsidiaries had developed a relatively broad range of production over the post-war period, including lower value-added products such as storage tanks. During the 1970s, especially from 1975 into the early 1980s, production of lower value-added items was basically closed down. There had for example been sizeable production of storage tanks in Canada, Glinde in Germany, Nevers in France, Groeningen in Holland and in Australia. The French subsidiary had in Nevers what Alfa-Laval referred to as the biggest such operation in the world. With the closure of tank production, a related research and development unit in Nevers was closed. The symbolic last Alfa-Laval brewery tank was made in 1984. Support products of lower value-added came to be purchased instead. It should be noted that this type of production was almost exclusively a local affair, under the control of the foreign subsidiary, which lost a substantial part of its production capacity by this rationalization.

Not only lower value-added manufacturing was closed, but also unrelated activities that the subsidiaries were engaged in. For example the Bergedorfer Eisenwerke in Hamburg had an extensive production of machinery for the textile industry up until the early 1970s.

The magnitude of issues, and the process of international integration varied between the divisions. Production of *separators* was placed under the control of the formed Separation Engineering division, with the divisions' office and main factory in Tumba. The various separator factories were placed under the control of Tumba, overlapping production was eliminated, and production facilities for separators were specialized. Several international plants originally supplied the centrifuges. Apart from Sweden, there were separator factories in the United States, Italy, Spain, England, France, Brazil, and India. As of the early 1980s, R&D for separators was located in Tumba and in the US, Italy and Spain, and related to the type of separators produced at the various facilities. For example, in 1982, the Marine and Power division formally purchased R&D services from Separation Engineering, where there was a dedicated department for marine separators (later in the 1980s the two divisions merged). The Spanish operation was first licensed out to a local company; a result of the relatively closed economy of the Franco era. In 1965, when the economy was opening up, Alfa-Laval took over, and the Spanish subsidiary grew to be important, close to the largest shipbuilding market in (western) Europe in the late 1980s. The relatively limited separator operations in France and Great Britain were closed. The British subsidiary had concentrated in marine separators, while the French had produced a small volume of various specialty separators.

In 1980, following an upsetting turnaround decision, marine separator production in Tumba was moved to Kyoto in Japan. The reason was to be located close to the market, which for marine separators had to a large extent moved from Europe to the Far East during the 1970s. In Kyoto Alfa-Laval had a joint venture and the move was motivated by the need for proximity to the actors present in Japan, although two-thirds of the production would be intended for export. Another reason was the need for an efficiency of production equal to that of the Japanese competitor Mitsubishi. The relocation was dramatic for several reasons. It was one of the first major decisions, and a highly symbolic one, taken by the new managing director - Harry Faulkner, who was appointed managing director in 1980 - and it meant handing over the recently purpose built so called SMV workshop in Tumba to other uses. It also meant locating a major plant in the Japanese home territory. Despite labor union protests, the production was moved and remained in Japan.

#### *Early 1980s problems...*

In the early 1980s, Alfa-Laval had a complex component production structure with some problems. There were differences between the product divisions in the pace and extent of international involvement. The separator production structure was complex and seemingly demanded more time to restructure than the relatively straightforward PHE production which relied on central production in Lund of core components and local assembly. At this point in time, there was production of main-line separators in Spain, Italy and Japan and special application separators made in Sweden and the US.

This complexity was reflected by organizational solutions in which so called 'industrial hotels' were employed to house several value-adding activities. For example, the age-old Poughkeepsie facility in New York State, was made into an 'industrial hotel', where the manager reported directly to the foreign subsidiary manager. In Poughkeepsie in the early 1980s, there was manufacturing of separators, assembly of plate heat exchangers, flow equipment production, Agri production, a rubber factory, service department and spares. The various departments had separate management and because of overcapacity in the facility, the overhead costs were high. With the interest from the product divisions, there was effectively a matrix within the factory, although the extent of this relationship varied significantly between the activities. The industrial hotels concept later disappeared.



There were not only organizational issues. Product development and the product quality of separators were also issues brought to the fore by foreign subsidiaries in 1982. Eventually Alfa-Laval launched a corporate-wide quality campaign in 1983. The company had spent considerable energy in identifying market segments and preparing for the systems sales effort and expected growth. Perhaps there was some truth in the sullen comment from a local manager that Alfa-Laval in the early 1980s was

*"a marketing company with a slight production arm."*

*...rationalization and specialization*

With the quality campaign of 1983 attention was refocused on production and component issues, and the mid 1980s was to see an iterative series of changes leading to an operating structure with multiple, specialized and non-duplicating plants. Several waves of rationalization efforts in the early 1980s resulted in a shrinking workforce in the subsidiaries.

The United States separator facilities were rationalized in the early 1980s, resulting in a concentration on the line of separators produced for the US Navy. The importance of the US subsidiary in research and development changed substantially, narrowing down the scope of research activities and focusing on marine separators for the US Navy exclusively. A product program for the US Navy had been developed from scratch in the US, and the subsidiary had remained engaged in an ongoing development for US Navy, although partly dependent on resources from Tumba.

Another important wave of restructuring took place in the mid 1980s, roughly from 1985 to 1987, involving the European separator plants. Already from the outset, it was an international project, and resulted in a new international production structure. Three European plants located in Tumba, Sweden, in Monza, Italy, and outside of Madrid, Spain, became the main suppliers of centrifugal separators. Production became specialized, based primarily on the size of machine, which indirectly also implies a division of type, or customer-orientation of the machines. The Spanish plant supplied small separators, for marine use, the Italian medium-sized, for marine and food systems, the Swedish plant supplied larger units for the dairy and chemical industries. Apart from the European facilities, there were also the above-mentioned plants in Japan and in the United States, in Brazil and in India. The Japanese plant remained specialized in marine separators, and the

US plant produced for the US Navy. The Brazilian and Indian plants were motivated chiefly by import restrictions.

With the acquisition of Danish Titan in 1969, the company's center in decanter centrifuges shifted to Denmark, and production of decanter centrifuges was concentrated to Denmark in 1982. With the 1988 acquisition of the American Sharples company, there was another center in the US for this type of machinery.

Development and production of *PHEs* were moved from Germany to Sweden just before the Second World War. PHE production was centralized to the Lund plant, which remained the only plant for PHE plates for almost the entire period, with local assembly and lower value-added production in several places. Consequently, there was never any international dispersion of PHE production, which was the case for separators; production of the core component of PHE always remained in Sweden.

The plate heat exchanger part of Alfa-Laval also grew with acquisitions. In 1963, the only major Swedish competitor, Rosenblads patenter, was acquired though not integrated until 1968, at which time a large part of Rosenblads operations were also physically moved from Stockholm to Lund. A PHE factory in Japan was started in 1970. In 1982, production of core components was essentially centralized to Lund, with local adaptation in a number of countries; USA, France, Spain, Great Britain, Japan and India, and productivity measurements regularly compared between the factories. There were demands for local production of plates in the US, in order to cut down delivery times. In the late 1980s, some further acquisitions significantly increased the divisions' capacity, and broadened the scope to related areas. For example, the acquisition of the Swedish Euroheat company in 1986 represented an increase of turnover for the business area by a third.

CAD/CAM equipment was introduced in 1981<sup>59</sup>. Initiative was taken in the Thermal Engineering divisions where discussions started in the middle of the 1970s. Around 1979 the new technology was made a corporate interest and efforts to find a suitable system coordinated. The formal decision was taken by the corporate board of directors and ultimately Thermal and the corporate technology development department had the same CAD/CAM system, later also employed by Food and Dairy and Agri<sup>60</sup>.

Rationalization and restructuring over the latter decades led to specialization of R&D and manufacturing facilities, as well as an increase in the number of technology centers of the firm. These technology centers came to be geographically dispersed. The early post-war

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<sup>59</sup> Löwstedt (1986)

<sup>60</sup> Löwstedt (1986)

structure was based on multinational development and production of a relatively broad set of products for local needs, including in-house manufacture of lower value-added items. The described change process led to a few specialized factories for high value-added items, and for global scale.

Responsibility for product development and manufacturing came ultimately became a matter for the product divisions. The corporate office slowly, and possibly with hesitation, rid itself of the centralized capacity in technological matters. We will have reason to come back to this issues, but it may be noted that corporate management was still stressing the related nature of the products of the company in 1990. For example, there were concerted efforts to develop products across divisions. A project for the development of continuous measurement of food process quality (instead of sampling) which was ongoing in 1990 involved three divisions: Bran+Lubbe, Automation and Food Engineering.

#### *Logistics: towards European nodes*

From the early part of the century up until the 1980s, export of products from the Swedish production facilities meant shipping goods to warehouses in the foreign subsidiaries. Each subsidiary had its own warehouse, and was responsible for the stored goods. The imported goods were complemented with locally purchased items. Inventory management was identified by corporate management as a problem in the early 1980s, based on the manufacturing in short series and resulting in:

*"... no volume, but spare parts everywhere."*

The second part of the 1980s saw a separation and definition of the outbound logistics function, i.e. the distribution of goods. A structural change for the warehouses for separator spare parts in the Nordic countries was decided upon in 1987. Tumba was made into a central warehouse with only fast moving service warehouses in Copenhagen, Oslo, and Helsinki. Orders were to be sent in on-line to Tumba and deliveries made according to pre-specified delivery times. Marine & Power Engineering had taken the initiative but the spare parts project was a joint project between Separation Engineering, Food Engineering and Marine and Power Engineering with Separation Engineering as responsible for the implementation. The envisaged continuance was a regional warehouse in western Europe.

From 1984 to 1987, the agricultural business was radically restructured and local retailers came to serve the farmers with a multitude of products, supplies and consumables for the milk farm. Agri had also formed a separate logistics function. In the mid 1980s, Agri centralized storage for the Nordic countries in Södertälje, outside of Stockholm. In 1987, Agri formed the Agri Distribution Center, a logistics company serving the continental European markets. In 1987, implementation of the distribution network was ongoing, and was completed in a first step in 1990. The goods were shipped from Glinde, Germany, to the individual market companies. Work was ongoing for a second step, which would lead to direct deliveries to the retailers, and the closure of market company storage facilities. The subsidiaries in West Germany, Belgium, Holland, France, Austria, Switzerland and Italy were to combine their storage facilities into the central warehouse. The original driver for this move was a perceived need, on the part of Agri management, to increase capital turnover. Instead of shaping up the policies regarding stored goods, a more radical solution was sought. The subsidiary in West Germany had overcapacity in warehousing as well as in computer mainframe capacity and the idea grew from there.

#### *Downstream activities*

In the early days, the organization of marketing and sales was quite straightforward. The parent company had a sales director, responsible for 'export' sales to the non-domestic markets and foreign subsidiaries, where the local representatives were responsible for marketing and sales of AB Separator products. The parent company structure was to last until 1968, when export sales were delegated to the then formed product divisions.

Internationally, however, the national Alfa-Laval foreign subsidiaries continued to be the almost singular market channel afterwards. 'Singular' in the sense that Swedish units exported ordered goods to the subsidiaries, but internally the subsidiaries had sales departments that were often similar to the Swedish ones, but varied between the countries. As market channel, foreign subsidiaries decreased in importance. By 1987, only 30 per cent of Alfa-Laval sales passed through the traditional foreign subsidiaries.

All units of the post-1970 company appeared under the same internationally standardized alfa symbol and logotype in the same blue color. This had not always been the case. The corporate name 'Alfa-Laval' was introduced in the early 1960s, when the parent company switched from AB Separator to the new name, seemingly somewhere in the middle of a standardization process that already had begun, as new units were already given

'Alfa-Laval' names. The Greek alfa symbol made its appearance almost a decade later than the corporate name, in 1970. The corporate name and symbol held precedence over sub-units. On company documents and letterheads, the product division or market company name appeared in small letters underneath the corporate name and symbol throughout the 1980s.

During the component era of the firm, Alfa-Laval sold a great number of units to a multitude of customers. Order sizes were typically quite limited and sales were local. This situation remained for the units of the latter day Alfa-Laval that were primarily engaged in component production and sales: Thermal Engineering, Separation Engineering and Flow Equipment. The systems effort created a different situation with large order sizes, extensive customization of the product and long delivery times. This was especially the case for food and dairy production systems of Food Engineering. While the component sales may be efficiently marketed in a local fashion, the systems efforts to a larger extent required attention across-borders with inter-company expert teams, for example in brewery, and inter-company project groups for large projects<sup>61</sup>, such as a group brought together for the Gervais-Danone project discussed earlier.

Marketing practices continued to vary between the countries. For example concerning brand names, where for historical reasons the French Agri unit employed the name Elevage and the US and UK companies preferred De Laval. Double-branding was found on several product-markets, for example, agricultural products in France were sold under both Alfa-Laval Elevage and Diabolo-Manus, and PHEs sold also under the Euroheat label, with a green instead of a blue color. There was also some OEM manufacturing of small, so called brazed heat exchangers (i.e. small non-serviceable PHEs), for producers of heating units for houses.

To summarize the branding policies over time in brief, there was a drive towards international standardization, which continued for the core activities. From having historically had a nationally responsive branding, Alfa-Laval moved towards a standardization of its appearance in the various national markets during Stahles time as managing director. With the acquisitions and increasing product diversification, the later 1980s again saw an increasing diversity.

The company maintained a united front towards the market in an often recurring coordinated appearance at trade fairs in the different countries. The company also began to

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<sup>61</sup> See Doz (1986) for a discussion on mobile sales teams as an alternative to a network of subsidiaries for an integrated multinational.

exhibit a united front due to the localization of country activities in a central national building. In the European country markets, following a national centralization period during the 1970s, all of the traditional units were located in one place in each country: food systems departments, PHE departments, separator departments, shipping-oriented departments and often also the milk farmer-oriented departments.

Pricing was originally at the discretion of local management. However, the international and mobile customers of the shipping industry eventually benefited from shopping around between Alfa-Laval subsidiaries for the best price on, for example, equipment for naval uses. This led the Marine and Power Engineering division to establish an international price list in the late 1970s.

Agri restructured its downstream activities following the 1984 problems. After the rationalization in 1985 and 1986, the international market companies of Agri functioned as general agents, organizing and servicing retailer networks. These retailers handled the bulk of sales to farmers.

Spares and after-sales service of installed units and systems was the responsibility of foreign subsidiaries, in the early days with little involvement from the home front. For the core components, the foreign subsidiaries continued to be the supplier of after-sales service and provision of spares to the locally installed units.

#### *Dependencies in the value-adding chain*

A historical development as a result of related diversification was identified above, which up until the mid 1980s may be characterized as related constrained. The related constrained diversification history pertains essentially to the traditional core technology areas, built around separation and PHE technologies and towards naval uses and food production systems using the core components. As a consequence of the related constrained diversification, the various activities of the firm have been dependent upon each other. An indicator of this is that internal sales have been substantial; units defined as application units (Food Engineering, Marine & Power Engineering) have purchased from the component manufacturing or support technology units (Separation Engineering, Thermal Engineering, Flow Equipment, Automation).

The interdependencies of the various activities and units of Alfa-Laval can be described in several ways. One aspect is the underlying dependence on milk and milk products. The basic need for which the centrifugal separator was conceived was that of separating cream

from milk. As an effect of the related diversification history, several of the activities of the firm became dependent on milk and dairy production. Actually, up until the mid 1980s, much of the firm's turnover was directly and indirectly dependent on the milk-related agricultural production in western Europe. The 1984 events highlighted the structural dependence on the underlying value-adding chain for milk and milk products which Alfa-Laval traditionally had been devoted to serving. Firstly, the agricultural business of Alfa-Laval, serving the milk farmer with machine milking systems and a multitude of support products, was severely and immediately affected. Secondly, the sales of dairy systems was affected, although with longer lead time, as dairies came to expect lower quantities to process. And thirdly, with fewer dairy systems to deliver, there was less need for separators, dairy PHEs and related internal deliveries.

However, as we have seen, new businesses were added with other technological bases, and addressing new customer groups. As a result, Alfa-Laval had essentially two sets, or groups of businesses in the 1980s. There was one set of stand-alone operations, organized as separate companies, with a relationship to the corporate office resembling that to a holding company, and with little dependency on other activities in the firm for technology or market aspects (Agri, Ewos, Bran+Lubbe, Chemap, Automation post 1986). The other set of units were related to each other, with substantial dependencies in various value-adding activities.

The activities of a number of product divisions, component divisions as well as systems designers, were interdependent in the international field. These divisions shared resources and costs in the foreign subsidiaries in general overheads, accounting and control, administration, information systems, logistics and after-sales service, including spares. In the early 1970s, all international sales were generated in the foreign subsidiaries. Apparently, the foreign subsidiaries were able to absorb the systems sales efforts, which were incorporated in the subsidiaries as some form of Food & Dairy, and Marine and Power departments. As the core components were the same, the initial systems efforts only added to the local companies, and illustrate the synergistic effects of related diversification. This sharing of resources continued well into the 1980s. To generalize, a local business area, for example, a Thermal department or Food systems department, in 1987 within an Alfa-Laval foreign subsidiary controlled some 50 per cent of its costs. In all three European market companies visited in 1987, local business areas were located in the same building and had a shared, separate department for after-sales service, repairs and spares.

The 1980s saw a change in the interdependence of product divisions. For Agri external purchases were higher and the downstream activities were externalized during the mid

1980s, as a result of a change towards the use of retailers instead of a dedicated sales force. As separators essentially were no longer sold to farmers in the developed countries, there was only negligible overlap between the value-adding chains serving the two customer groups of industrial and agricultural buyers.

After restructuring the organization in 1986 into Business Areas, these units acquired businesses related to their respective interests<sup>62</sup>. A consequence was a decreasing relative importance of the old milk-dairy interdependencies.

### **Physical location**

The Tumba premises south of Stockholm, to which the parent company management moved in the early 1960s, became the nerve center of the company and housed both the parent company with central staffs and several divisions<sup>63</sup>. Tumba peaked around 1978 with some 2250 employees in the corporate office and surrounding activities and around 4000 visitors yearly. Managing director, parent company management and central staffs were housed in the main high-rise building.

#### *Investing in the product divisions and the foreign subsidiaries*

A social aspect of some importance is that the product divisions had always been located in Sweden, with Tumba and Lund as the two geographical focal points. The divisions Separation Engineering, Marine and Power Engineering and Agri had their central offices as well as product development, factories and warehouses in Tumba. Agri invested in a large office and warehouse building next to the main Alfa-Laval building in 1974-75, called the Farm Center. Around a third of the employees in Tumba worked in the workshops or the workshop office. The construction of a new factory for marine separators - the SMV workshop - was begun in Tumba in 1976. When the business groups were formed in 1979 they were also based in Tumba.

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<sup>62</sup> See Appendix B.

<sup>63</sup> The physical location of activities has often been seen as a part of the context determining managerial practices. However, physical location is in itself also a managerial instrument. For example, co-location may enhance information exchange (Pitts and Daniels, 1984).



In parallel with investments in premises for the forming product divisions, Alfa-Laval invested in the national foreign subsidiaries. As a heritage into the 1970s, the foreign subsidiaries often had a dispersed local structure, and throughout the 1970s national activities in a series of large national market where centralized. As a consequence, foreign subsidiaries engaged in a wave of office construction during the 1970s. These local investments were sanctioned from the parent company. Hans Stahle remarked in 1977<sup>64</sup>:

*"For large sums of money we are methodically building up a sales organization market by market which reflects the anticipated demand five years into the future"*

In Italy, France, Germany, Great Britain and in the US, large representative offices were constructed for the central management of national foreign subsidiaries. The Italian subsidiary moved into new offices in Monza in 1970. In the early years of the 1970s, the German subsidiary left its almost ancient Bergedorf site in Hamburg for a new office and warehouse building just outside the Hamburg city limits, in Glinde. The French subsidiary moved into new offices in 1977 in Les Clayes sous Bois. In 1979, the US subsidiary management moved into a new building in Fort Lee, New Jersey, just across the bridge from Manhattan Island, partly severing the historical ties to Pooughkeepsie upstate New York where the subsidiary had been founded in 1883 (the factory remained as an industrial hotel). In 1979-80, the British subsidiary moved into the high-rise 'Alfa Tower' in Brentford, halfway between London and Heathrow Airport and built next door to existing premises. Later, in the early 1980s, the Dutch mixed market company similarly collected all its dispersed activities in a central national head office building in Maarsen.

The 1970s thus came to mark the construction of both product division and foreign subsidiary central offices and facilities and Alfa-Laval as a whole invested substantial amounts in real estate. Around 1980, the divisions in Lund, i.e. Thermal Engineering and Food Engineering, had relatively new offices and the Tumba divisions were housed in the central corporate building and their own neighboring buildings with Agri in a modern Farm Center next door. Meanwhile the large foreign subsidiaries in Germany, the United States, France and Great Britain had manifested themselves in new office buildings - offices with expansion capacity and in a style that can only be described as power architecture. With all this real estate, it seemed like the parent company, the product

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<sup>64</sup> DI, may 3, 1977

divisions and foreign subsidiaries alike, had, at the turn of the decade, physically cemented their positions.

### *The fall of Tumba*

From the substantial investments in real estate in both foreign subsidiaries and product divisions in the 1970s, the 1980s saw substantial changes in the structure of physical location. The Tumba premises gradually lost its nerve center status. In retrospect the importance of Tumba in the late 1970s reflected the glorious past rather than future opportunities. The future was in Lund.

In Lund, Food Engineering and Thermal Engineering had their premises where workshops were extended several times over the 1970s. Thus, Lund was not only the PHE center but also the center for the systems design efforts. Systems design and systems-related technologies expansion was where growth was going to come from. In Lund, work on electronic systems control was begun and the 'pumping and plumbing' coordinated. In 1980 the newly built factory in Tumba for the manufacturing of marine separators was vacated as the production was moved to Japan. A few years later a new building intended for the next generation of computer mainframes was not moved into. Rationalization of staffs in the early years of the decade decreased the number of employees in Tumba.

The joint location of the parent company and product division headquarters in Tumba was to last until 1984 when the parent company management was relocated to Alvik, immediately north of Stockholm, to which the corporate management staffs were also moved. No business area headquarters were located in the vicinity, although Zander & Ingeström, a wholly owned company with separate activities and functioning as a market company in the Nordic region, was located in a building next door. Some headquarters functions came to be located abroad. A financial center was formed and located in Brussels, Belgium, in 1983 and an office for non-domestic personnel was located in London. The latter was a relocation whereas the Brussels unit had not existed earlier in Sweden. The number of employees in the Tumba area had been reduced to around 1100, which was half of the number ten years earlier. Visiting Tumba post 1990 was a bit like visiting Vienna. The marble is still there, but the emperor is gone.

### *New technology centers*

Over the latter decades, there was a concentration and specialization of R&D and manufacturing for the core components. PHE production was always rather centralized, and that of separators had become specialized and coordinated, with little duplication in effort in either R&D or manufacturing. On the other hand, the number of technology centers increased during the 1980s due to the incorporation of new technologies. *Tumba* remained the administrative center for separators although manufacturing was located also in Monza and Madrid (as well as in Japan) and R&D also done in the US<sup>65</sup>. *Tumba* was furthermore the center for milking machinery. *Lund* remained the center for PHEs. *Lund* was also the center for food production systems, although the picture was more complicated here with significant international distribution of knowledge. *Hamburg* was the center for dosing and analyzing technology, since the acquisition of German Bran+Lubbe in 1981. *Malmö*, Sweden, was the center for electronic automated systems control since the acquisition of SattControl in 1986. *Philadelphia*, along with the Danish facilities, was an important center for decanter centrifuges since the acquisition of Sharples in 1988. There were centers for pumping technology in both the *US* and *Great Britain* following acquisitions in the late 1980s. The company's center for fermentation process equipment was in *Switzerland*, in the Chemap company. The greater part of fast food equipment competence was located in the *US*.

Overall, up until 1980, *Tumba* was the distinguishable center for Alfa-Laval. The 1970s also saw a centralization and consolidation of the foreign subsidiaries' activities, along with the construction of product division facilities. During the 1980s *Tumba* gradually decreased in size and the corporate office physically separated itself from the product divisions. Towards the end of the 1980s the number of new technology centers increased sharply with the acquisitions. The international separation activities changed character with the specialization of the production units, although the number of international separation factories decreased only slightly. On the other hand, the new units brought with them a marked increase in the dispersion of Alfa-Laval's technological competence. However, no divisional office moved out of Sweden; all the non-domestic units were acquired, including the operating companies of Flow Equipment, although that unit had existed as a division in Sweden.

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<sup>65</sup> Actually, *Tumba* in 1991 suffered another blow when the separator manufacturing was combined with Eskilstuna, leading to the closing of the separator factory in *Tumba*

## Patterns of business-, technology and operations development

In summing up the business and operations development, the *continuity* in many aspects of the firm's activities should be emphasized, even in the face of the changes made. The company was continuously dependent on foreign markets for the greater part of sales. In fact, the foreign markets dependency increased over the decades. The national and regional distribution of sales changed especially with the absolute and relative increase in sales in the US in the late 1980s, but there was still a north European and Atlantic core market. The core component technologies of separation, PHE and milking machines remained, although production was organized very differently. The competitive positioning of the company continued to be essentially based on a differentiation advantage rather than price and cost. Also, there was an adherence to the historical patterns of related diversification.

The 1970s was Hans Stahle's second decade in office and there is a marked continuity in the development patterns. There was a continuation of the development towards supplying *core technology-based production processes especially for the food industry*. New ventures emerged as a result of internal development - a continuation of the historical tech/ market-related diversification. In the divisions as well as in the foreign subsidiaries there was a build up of process design competence. One can trace an effort towards very large processes and turn key deliveries including unrelated contracting in the late 1970s.

New competitors - such as Hisaka and Mitsubishi from Japan and Trenter from the US made their entry in the 1970s. It intensified the competition and was virtually the first time since the 1930s that the established multipoint oligopoly was challenged.

From the middle of the 1970s, lower value-added production was beginning to be closed. Much of this activity was based in the foreign subsidiaries. One of the effects of this was an increasing relative dependence on the Swedish workforce which peaked in 1981.

There is a marked difference in the nature of the change patterns of the 1970s and the 1980s. Whereas the 1970s was a continuation of the historical development of the firm, the 1980s - virtually from the year 1980 - increasingly broke with the past. The 1980s began on a new note when the SMV workshop for marine separators in Tumba was moved to Kyoto. *Rationalization of core component production* accelerated and with the combination of closing tank factories and the divestment of STAL Refrigeration, Alfa-Lavals interests in cooling and refrigeration was history. Also the unrelated systems effort met with difficulties and was abandoned. Cad/Cam was introduced. As a result of the rationalizations, there was a significant reduction in the number of employees in the foreign subsidiaries. The rationalizations were followed in 1985 to 1987 by a change towards *specialization of*

*international manufacturing*. The 1980s saw a decreasing dependence on Swedish employees, but not based on a move out. Units were not moved out, but the expansion occurred abroad.

In the early 1980s *investments in related technologies* gathered pace: biotech, animal nutrition, dosing and analyzing were first added. However, it was not until the *related acquisitions program* in the late 1980s that this line of business development was to have a greater effect. These acquisitions led to the incorporation of new technologies and international dispersion of corporate competence; electronic process control, mixing, fast food equipment, pumping and liquids flows, district heating. There were also horizontal acquisitions, notably the Sharples acquisition in 1988. In a sense, the parent company finally 'let go of the leash' on the diversified interests of the product divisions and allowed the divisions to pursue their respective interests.

Overall, the second half of the 1980s, basically from 1986, saw a rapid growth with increasing profitability. The expansion was based on an aggressive acquisitions strategy and led to a broadening and geographically dispersed competence base, in a multi-center structure.



## Chapter 6

### ALFA-LAVAL; DEVELOPMENT OF ORGANIZATIONAL STRUCTURES

*The domestic organization; international organization; patterns in organization structure development*

Approaching the initial stage of the cross-border integration of international management practice in Alfa-Laval around 1970, the company was still by and large organizationally structured in the same manner as formalized by John Bernström in the early days of the 20<sup>th</sup> century. The international organization structure was based on a Swedish parent company with foreign subsidiaries in the various national markets. The functionally organized parent company was not a corporate 'headquarters' but organized all activities in Sweden and exported components to a set of affiliate companies. The foreign subsidiaries organized all activities of their respective countries, in response to local needs and variations. The operating structure was equal to the legal structure.

This chapter provides an account of a twenty-year-long organizational development process that led the firm from a nationally oriented mother-daughter structure to a globally divisionalized form. The focus is on various formal organizational structural forms, techniques and devices and how they developed over time. The perspective is systemic in the sense that the structural categories have determined the chapter's structure. An almost inevitable discussion of roles of organizational actors will come later, and will be based on the material of chapters four through seven combined.

## The domestic organization

The development outlines the *realized* formation of divisions and subsequent units; we tend to write the winner's history. Of course, various business development efforts and investment programs have been attempted but abandoned in the long-term development of the company. Historical examples are plentiful, but in modern times the car body production and white goods interests are examples (see previous chapter). Later, the activities in cooling - including both tank production and STAL Refrigeration - were divested. Also, Ewos was divested. Some efforts have left little or no traces in terms of organizational units. The turn-key construction was an unprofitable route, and the aspirations attached to the biotechnology field were never quite fulfilled. Despite the volume of the fast food interests, these activities remained part of the Food division.

The realized route of business development as well as the basis for definition of business units over time was that outlined in the previous chapter as the related diversified efforts of components, of adding value through component related systems design and subsequent expansion into systems-related technologies.

### *Forming the divisions*

As we have seen, the functional organization of the parent company which dated from Bernström's days in the early part of the century was very robust. Similarly the international organization structure with wholly owned national foreign subsidiaries proved to withstand the tests of time and war. Whereas the national foreign subsidiaries continued to be the basis of the international organization up until the end of the 1970s, the organization of the parent company changed at an earlier date from functional to divisionalized. The growth in number, and importance, of the product divisions slowly increased. Reconstructing the process of forming the division is a rather grim task, as the activities were renamed and reconfigured several times. From their conception the product divisions were embedded in various layered organization structures until they ultimately gained visibility in the late 1980s. The main development lines will be given here.



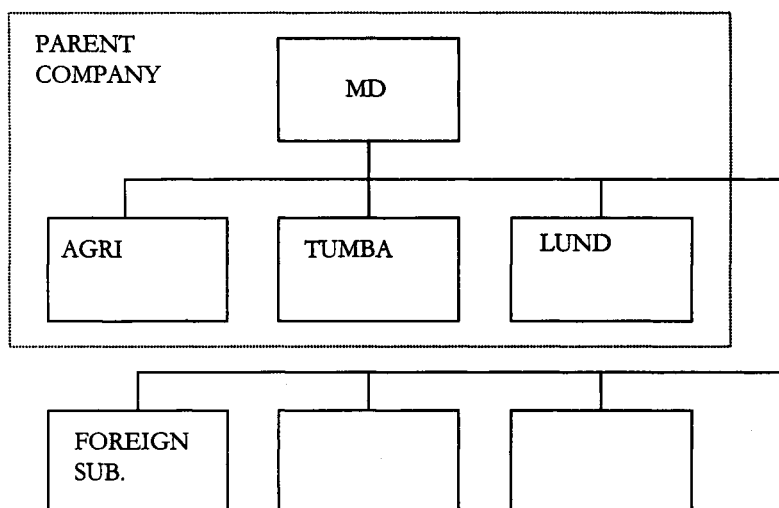


Figure 6.1. Alfa-Laval organization structure 1970.

Source: Adapted from internal company documents and interviews<sup>66</sup>.

The first modern product division formed was *Agri*<sup>67</sup> - the milk farming-related business, including milking machines - in 1963. The division was responsible for research and development, sales apart from export sales, although production remained a parent company activity. As we saw earlier, the products included both milking machines and a broad range of auxiliary products, aimed at milk farmers in the industrialized countries. In modern times, separators had not been sold to farmers. In both markets and products the agricultural activities were distinct from the separator or PHE activities - whether sold in components or systems - and its formation a logical step. Agri's long time manager Lennart Berglund was also instrumental in introducing international profit center ideas. A concept of 'divisional field of operations' was used in Agri.

In 1968, the parent company was divided into 'sectors', which later, in 1973, were organized formally into three divisions. The agricultural business formed one, the separator-related businesses formed another, based in Tumba, and the PHE as well as the

<sup>66</sup> The organization charts in this chapter are not the official Alfa-Laval charts, which at times reached a significant level of complexity (see Hedlund and Åman, 1984, p48). The charts here are designed to convey the principles of the organization, not the actualities.

<sup>67</sup> Italics will be used to highlight the name and form that the divisions ultimately were given. In most cases these were to survive throughout the 1980s.

dairy systems-related businesses a combined third division, called Dairy and Heat Exchange, located in Lund. At the point of creation, the basis for the definition of the latter two divisions was also geographical (Tumba and Lund) rather than strictly by product. There was some overlap in the emerging food systems efforts. Internally, the divisions were referred to as the 'Tumba' and the 'Lund' divisions. In the early formation of divisions distinct customer groups were the most obvious rationale for the Agri division. The two core components of PHEs and separators were the basis for the other two divisions, although the historical locations at Lund and Tumba provided the geographic nature of the definition of the units.

The divisions took over the operational responsibility for export sales, research and development and production from the central parent company. They were profit centers, and legally part of the parent company. Interestingly, there was a short period, only some six months, with most of the Swedish production units remaining under the parent company production director (the Lund division had control over its production of PHEs from the start). The arrangement apparently was not felt to be a success, and very soon replaced by the divisions assuming full responsibility for production as well.

During the 1970s, the Tumba unit was divided into the "Division Separering", the *Separation Engineering* division, with responsibility for separator production and component sales, and the *Marine and Power Engineering* division, with responsibility for the application of mainly separators for marine purposes. These two units seem like a modern parallel to the historical 'Land end' and 'Marine end' departments referred to earlier, although Marine and Power was a market oriented unit and the development and production of separators continued to be done at the technology oriented Separation Engineering division. There were dedicated marine separator development departments in the "S" division.

The Lund 'sector' was first internally divided into PHE and Dairy departments in 1971, but overall remained as a single unit. In 1971, Lars Halldén was formally appointed as manager of the "Division Termiskt & Mejeri", i.e. the thermal and dairy division, which was the official name of the Lund division at that point in time. Within the Lund division, three new profit centers were formed: Food, Thermal and Components. The Components profit center was responsible for Alfa-Laval interests in pumps, valves and stainless steel piping for dairies and other uses, and the origin of what later in the 1970s was to become the product division *Flow Engineering*. The Lund unit was divided also into the *Thermal Engineering* division, with responsibility for plate heat exchangers and the Food and Dairy division, with responsibility for dairy and food processing systems. The latter unit changed name and definition several times, but was from the mid 1980s called *Food Engineering*. The

name changes in themselves reflect the various efforts to come to grips with the rapidly developing and expanding food systems efforts and attempts to departmentalize the activities when dairies were becoming but one of several target groups. Within Food Engineering, a unit for the new electronic systems control technology had been formed in 1974, called Automation. These activities were to have a prominent future. In 1978 food systems-related units located in Tumba were moved to Lund, whereby the division of tasks between Tumba and Lund became clearer and all systems efforts oriented towards the food and beverage industries came to be located in Lund.

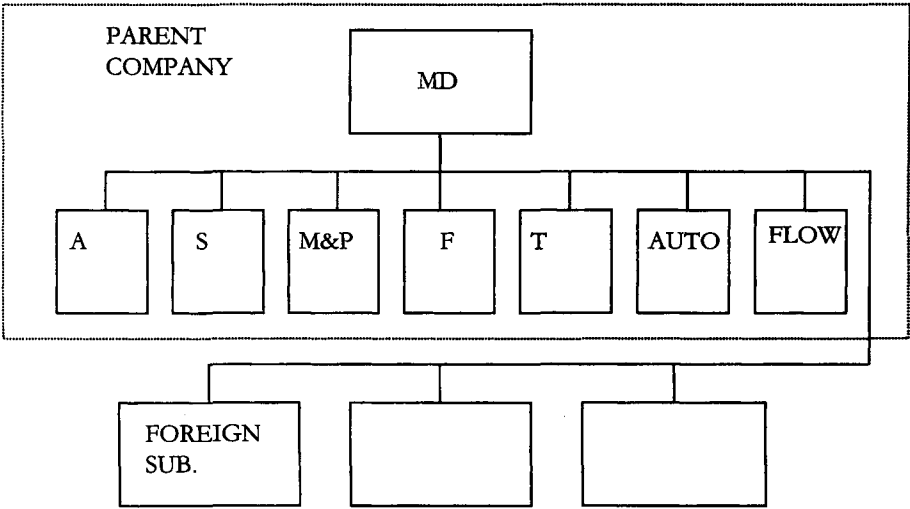


Figure 6.2. Alfa-Laval, organization structure 1978.

Source: Adapted from internal company documents and interviews.

The emergence and formation of the divisions during the 1970s was based primarily upon the systems effort discussed in the previous chapter. Apparently, there was a need to form distinct units to pursue these business opportunities. The result was two core component divisions (Thermal Engineering and Separation Engineering) and two market-oriented, application divisions (Marine and Power Engineering and Food Engineering). We should also note the internal development of systems-related technologies that resulted in the department for Automation and the Components department, both located in Lund.

By 1978, most of the units were formed that would provide the fundament for the development throughout the 1980s. The systems development was now reflected in the

parent company organization structure. What remained was the expansion into systems-related technologies and which was to come in the 1980s. From the definition of the first product division in 1963, and the sectorization of the parent company in 1968, the divisions grew in size and structural complexity during the 1970s. Throughout the 1970s, a third type of organizational unit - the divisions - emerged and was formed, distinct from the earlier dyad of parent company and foreign subsidiary. The units were either traditional core competence holders or fairly logical extensions of the needs of the systems design efforts. However, the product divisions still had a domestic orientation and little formal clout in the international field. Legally, the product divisions were part of the parent company up until 1982/83, but a reorganization into business groups in 1979 changed the operative pattern.

### *The business group era*

The divisionalized structure of domestic operations remained until 1979, when three business groups were introduced as a superstructure for the divisions, and inroads were made into changing the formal international organization structure. Two business groups were oriented towards distinguishable customer groups: one towards agricultural buyers, i.e. milk farmers, and one towards industrial market segments, i.e. dairies and foodstuffs industries and other industrial applications of the core technologies. These were named *Business Group Agri* and *Business Group Industry*, respectively. The third was a superstructure for the management of Alfa-Lavals unrelated investments, called *Business Group Other companies*. In the following we will not study the Other companies group in detail. The companies operated on a stand-alone basis and mostly in Sweden. They also had little sales outside the Nordic countries, and consequently little influence on the international organization of Alfa-Laval. We should note, however, that one of the companies in the Other group, Zander & Ingeström, was responsible for sales of separators and heat exchanger to industrial customers in the Nordic markets, which means that there was an interdependence between units in the Industry group and Zander & Ingeström.

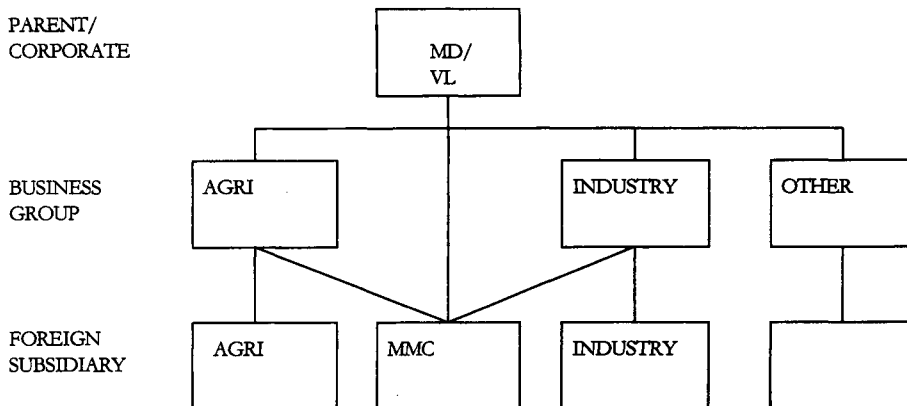


Figure 6.3. Alfa-Laval organization structure 1982.

Source: Company documentation and interviews.

Reasons officially stated for the reorganization were growth leading to diversification, and a subsequent need for differentiated management and control procedures. The aim was to increase the efficiency in terms of quicker decision processes, increased profitability and profitable growth<sup>68</sup>. In practice, Agri continued as before while all Alfa-Laval activities that were oriented towards industrial customer groups were united under a common management.

The business groups were formally global product divisions, although with [decreasingly] overlapping international organizations. From a control point of view, they were profit centers. Agri and Industry were each headed by a dedicated "*deputy managing director, in charge*"<sup>69</sup>, who was part of the Executive Management Committee. Lennart Berglind, who had headed Agri since the 1950s, was now elevated to deputy MD and continued in charge of Agri until 1984. The Industry Group was a combination of the earlier Lund division with the separator-related activities from Tumba, and from the Lund division Lars Halldén now became manager of the Industry Group. The Other companies group had in practice no dedicated manager since the man recruited for the job, Ragnar Beyer, was instead made president of the US market company. Thus, the Other companies remained directly under Harry Faulkner.

<sup>68</sup> Annual report 1978,p8.

<sup>69</sup> Annual report 1982.

With the business group organization of 1979, the global product divisions - the two business groups - became very complex organizational units. Being a two-tier divisionalized structure, the business group was housing a collection of related businesses; related on the basis of industrial customer orientation.

The business group organization was intended to have implications for the international organization. The larger foreign subsidiaries were to be internally organized by business group. The local managing director was to be "*king of the country*", and report directly to the regional manager for his country within the Executive Management Committee, the so-called "*governor*". Above all, the advent of business groups in 1979 introduced formal matrix arrangements within both Agri and Industry. The effect was most substantial on the more diversified Industry group. Initially, however, the matrix was decidedly tilted in favor of the national organizations, and the influence of cross-border considerations grew with successive changes that strengthened the substantive and symbolic power of cross-border actors.

By 1982, the Agri business group was organized with three product divisions (Milk production, Barn equipment and Farm supply and spares) and departments for farm systems and exports to state-trading countries and operations outside of Europe. These units were all based in Sweden, with the divisions being profit centers. Internationally, Agri at this point acted through both the traditional foreign subsidiaries and an increasing number of dedicated market companies. The Agri internal relationship was stated as a matrix, with demands for "opposite numbers", i.e. a reflecting organization, in the foreign subsidiaries. The traditional foreign subsidiaries represented around 25 per cent of Agri sales in 1982.

There were two major acquisitions during this time that should be noted. In 1979, the Swedish company Ewos was acquired and formally made part of the Other companies group. Always a stand-alone operation, it later acquired the status of business area; *Animal health and nutrition*. Ewos was eventually divested in 1987. In 1981 the German company Bran+Lubbe of Hamburg was acquired and made part of the business group Industry, although its operations and own subsidiaries never merged with the existing Alfa-Laval units. It remained a "company" in the business group Industry until it was made a business area in its own right in 1986; *Dosing and Analyzing Technology*.

*From parent company staffs to corporate and divisional staffs*

The central corporate office in Tumba peaked in size in the late 1970s, with a total number of employees in the Tumba facilities of around 2250. This includes factory workers, but it also reflects the size of central staffs. The central staffs retained throughout the 1970s a functional structure, with for example purchasing, production and technology staffs, and a large data processing (EDP) department housing an IBM mainframe.

The divisional offices had begun building staff functions for the support of divisional management, and in the early 1980s some confusion had arrived as to whether the central staffs in Tumba belonged to the parent company or divisional units.

The functional central staff structure essentially remained into 1983 and was dissembled over a few years from 1984 onwards. They ultimately arrived at a 'corporate' format; - purchasing, production, etc., disappeared from the parent company, by then corporate headquarters, which retained considerably smaller staffs amounting in total to around 100 employees focusing on auditing and finance. A key event in this development was the relocation of the parent company from Tumba to Alvik in 1984, when in a sense the functional staffs were left behind.

The central technology staff was the last to disappear from the parent/ corporate office. Actually, in 1986 it was promoted to the status of business area. In 1988 it was again a department and closed in 1989. As of 1990, there was no longer any technical staff or similar function on the corporate level. Instead research and development and the development of competence in technological matters had become the sole responsibility of the product divisions. In a sense, this change was a formal recognition that the technological base of the company had become too wide for any one department to be able to handle.

Group staffs were formally given a more defined role in the business area organization of 1986, with international scope. Every group staff manager had the supervising responsibility for his share of the activities in both the business areas and mixed market companies. Heads of the Group staff units reported to the Chief Financial Officer and had a "*monitoring*" responsibility within the Group for their respective functional areas. Corporate staffs were in 1986 given the formal right to issue "*directives*", i.e. instructions concerning their area of responsibility that would affect all business areas, the unrelated global divisions, as well as all market companies. This concerned for example information systems (hardware and software), finance policies as well as policies regarding investments and depreciations. The meaning of the word 'directives' was simply that these were not to

be disputed by individual organizational units<sup>70</sup>. The effects at, for example, Agri were felt at the foreign subsidiaries who sometimes received instructions from corporate staffs which had not passed through the business area office, initially causing some confusion.

To the aid of Executive Group Management, following 1986, there were two senior vice presidents for International market coordination. These two functions later disappeared.

### *The incorporation of product divisions*

A significant change in the legal structure took place in 1983, when the product divisions of the parent company were incorporated. The product divisions of the Industrial group were incorporated one by one, and the Agri group as a whole. Up until then, the product divisions had been profit centers and legally part of the parent company. The 'new' industrial corporations were Food and Dairy, Marine and Power Engineering, Flow equipment, Separation Engineering and Thermal Engineering. The Agri business group was incorporated in its entirety and the divisions within the Agri group were not affected by the change. The change seems to have had little immediate coordination and control implications vis-à-vis the market companies, but it may be seen as a step in the long-term evolution or even a preparation for things to come. At the time it was a symbolic rather than substantial action, but with alledged motivational effects for the newly appointed managing directors, expressed more bluntly in interview responses;

*"...it was building the ego of some to become managing directors..".*

It may be remembered that incorporating product divisions was not an uncommon practice in Swedish industry at that point in time. It was no doubt considered as good managerial practice in the business community and part of a series of efforts striving towards "decentralization"<sup>71</sup>.

One of the reasons behind the parent company changes in 1983, which included both an incorporation of the divisions and a decision to move the corporate management to another, separate physical location, was the confusion of the role of the staffs discussed above. The responsibility of the staffs at the Tumba location in the early 1980s was not

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<sup>70</sup> As expressed by group executive managers in interviews.

<sup>71</sup> See Söderberg (1992).



always clear, in terms of whether corporate management or divisional management was the ultimate employer.

Actually, the incorporation of the product divisions led to an odd construction in terms of relationships between hierarchically defined units. In the Industrial group, the incorporated divisions were now under the supervision of a traditional profit center superstructure. In other words, the formal clout of the hierarchically inferior unit was more strongly stated than that of the superior unit. Specifically, the division manager was formally a managing director of an incorporated company, which was not the case of his superior the head of the business group. In this sense, there was an inherent imbalance between the legal and operational status which can hardly be judged a stable situation. Rather, the imbalance in the industrial group points towards the changes in formal corporate organization structure that were to come. In the Agri group however, the legal structure mirrored the operational structure even after 1983. The business group was incorporated in its entirety, with the Agri divisions remaining as profit centers within the now incorporated business group. The legal framework for the impending corporate reorganization was thus established in 1983, three years before the formal structural change.

### *The business areas*

The next major change of the corporate organization structure took place in 1986, and established the structural framework that remained through 1990. The number of organizational levels was reduced as the three business groups - Agri, Industry and Other business groups - disappeared. The corporate operating structure as of 1986 came to be based on a number of business areas, with a formal global product division form. The business areas were to report directly to the corporate office.

The background to the new ideas was outlined in company documents in the rather open ended and sweeping form that these documents tend to have. It was stated as a need to adapt to the changing demands of the marketplace. The need, it was stated, was for a strong and flexible organizational structure, to comply with customer needs and expectations and to support profitable growth. It should be as simple and easy to understand as possible. An important driver for the work on a new organization structure was apparently the perceived need for higher profitability. 1984 was the year of halved profits for Alfa-Laval, 1985 still not satisfactory. We should also note that a new major

owner - Fredrik Lundberg - had, uninvited, entered the fray and by 1985 had two seats on the board of directors. Higher profitability, it was argued, would give freedom of action and better development opportunities, and provide the owners with a just return on their capital. The theme of the new organization was stated as "*Organizational structure for profitable growth*".

As a means to achieve better growth, a change in policy was made in favor of acquisitions, as a contrast to the previous policy of growth through internal means. The previous chapter indicated the dramatic effects of this policy change as it was acted out. Thus, the company needed an organization structure where acquired firms could be more easily slotted in: the business area organization.

The Industry group had grown to a size and diversity which it was felt rendered the present organization and control systems inadequate. In the frank words of Lars Halldén the business group had grown too difficult to manage as a coherent unit<sup>72</sup>. Executive management also expressed concern in relation to the management information system. It was stated that Alfa Laval needed a control system that could measure profitability all the way out to the customer, in order to determine the product line profitability. The product divisions were becoming frustrated at the lack of scope for acting locally. It was felt that it was necessary to give them greater authority towards the market companies.

To summarize the above, the business area organization was said to have been conceived with a broad set of objectives:

- higher corporate profitability
- higher corporate growth
- better strategic control over the industry group operations
- quicker reaction to market changes
- customer orientation

In effect, the business area organization was a continuation of the development in corporate organization that had taken place to date rather than a radical departure. The division of responsibility between divisional and corporate offices became clearer than before, and the change toward realized global divisions continued with all business areas formed as global product divisions, compared to the previous two.

The roles of corporate management, business area and market company headquarters, as well as the principles guiding the interaction and cooperation between organizational levels and support functions, were defined in company documents. At the point of study in mid

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<sup>72</sup> Personal interview. Lars Halldén was at that time business group manager.

1987, commercial agreements were being developed between the business areas as a consequence of the corporate reorganization enforcing a decentralization and stricter division of responsibilities than before.

### *The legal structure of global divisions*

There was a difference in the legal structure between the incorporated domestic product division, and the global business area. The incorporation of the product divisions in 1983 was an incorporation of the domestic, i.e. Swedish units and the international companies were unaffected by the changes made to the Swedish legal structure. This leaves a difference between the legal and operating structures with respect to the global product divisions - the business areas - created in 1986. If we exemplify with Thermal Engineering, the corporation owned the domestic assets, concentrated in Lund. The managing director of the company was also Business Area Manager of the Thermal Engineering Business Area, with formally specified international authority and responsibility, but without the ownership. In 1987, the business area combined the operations of the domestic corporation with the Euroheat company (acquired in late 1986), with the dedicated market companies, for example in the US, and finally, with the Thermal Engineering parts of mixed market companies (The notions of dedicated and mixed market company refers to market companies working for one, or more than one, division, respectively. The notions will be discussed below). The Business Area was considerably larger than the corporation, and had an international responsibility for its defined business. The operating unit was the business area, not the domestic company. The asymmetries would later be addressed in the organizational formation of national holding companies, and the administrative separation of operative and financial items.

### *Defining the business areas*

The basis for definition of business areas is to be found in the earlier business development and in the administrative history of the company. The definition was not based on a single criteria as for the earlier business groups which were based on a customer orientation. The business areas were essentially units with the same scope as the product divisions that were formed over the 1970s. The previous Business Group Industry was broken up into business units along the lines of the incorporated divisions. The traditional

core component manufacturers formed business areas (*Separation Engineering* and *Thermal Engineering*), as did the customer-oriented systems designers (*Food Engineering*, *Marine & Power Engineering*) and the ‘pumping and plumbing’ arm, *Flow Equipment*. These units were all related in the manner that has been described earlier, with varying, but quite substantial internal sales and formed a related business part of the corporation.

Another set of business areas were rather classical stand-alone business units. The traditional milk farmer market formed one business area (*Agri*), which was the same unit as the former customer-oriented business group. Two acquired companies remained more or less intact as autonomous units, and as business areas (*Animal Health and Nutrition*, Ewos, acquired in 1979, and *Bran + Lubbe*, acquired in 1981), and a third acquired company, SattControl, formed the core of the business area preoccupied with electronic production process control (*Automation*). There was also an alternative technology in early stage of development (*Biotechnology*), and two previous staffs with business potential (*Technology* and *Finance*), of which Finance already had a prominent role and for which the acquired status was a confirmation of its relative autonomy.

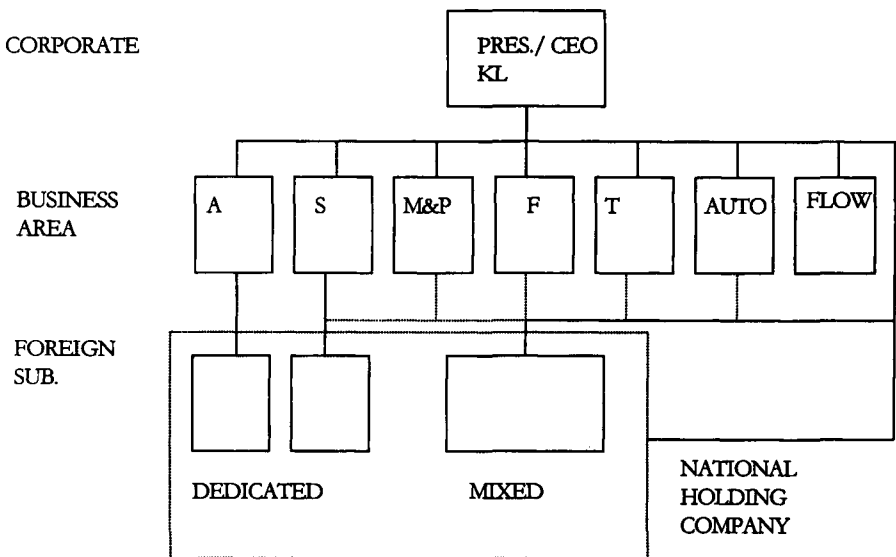


Figure 6.4. Alfa-Laval, organization structure 1988.

Source: Company documentation and interviews.

The product divisions had been entangled in various forms of organizational and legal arrangements. They had been sectors, geographical divisions, domestic product divisions, full business group or second tier units within the Industry group, as well as Other companies or Industry group companies. Adding to that, Agri and some industrial product divisions had been incorporated in 1983. The standardization of form and the visibility of the product divisions increased with the change in 1986. The incorporation of the product divisions in 1983 freed them from being clouded in the parent company, and in 1986, they were freed from the formal business family superstructure. The business areas - the formal global product divisions - were incorporated and reported directly to the corporate office without intermediary. The 1986 organization structure was conceptually simpler than the business group organization.

The business areas were formal global product divisions, with responsibility assigned for international operations. In practice, the state of (inter)dependence in the international operations varied between the business areas. If the formal expression was an intent of the role to be played by the business areas, then they were in different phases of a development towards stand-alone global product divisions. Some had their own international structure for a long time (Bran+Lubbe, Automation, Ewos), others since relatively recently (Agri). Already as a division, Agri had established considerable operating control over its dispersed units, and as a business group, Agri had begun the process of creating its own market company structure. Since the crash of 1984, Agri was rapidly severing ties with the Alfa-Laval foreign subsidiaries and establishing its own market companies. A few business areas were part of the related and interdependent core component based Alfa-Laval (Food Engineering, Thermal Engineering, Marine and Power Engineering), and shared resources in the foreign subsidiaries.

#### *Late 1980s developments*

From 1986 and through 1990, the number of business areas decreased to eight. Of the Biotechnology area remained a restructured Chemap company. The Technology business area virtually disappeared from the corporate scene. It first disappeared as a business area, after which all responsibility for technology development was decentralized to the business areas. Ewos was divested in 1987. Marine & Power Engineering was merged with Separation Engineering in 1988 and the combined unit called Separation Engineering. Both were headquartered in Tumba and in a sense the old Tumba division from 1968 reemerged

some twenty years later after its original conception - albeit in very different clothes. The definition of business areas were still based on components, systems design and systems-related technologies.

Interestingly, after these later changes, the number, definition and conceptual scope of the business areas of 1990 was virtually the same as the divisions formed by 1978<sup>73</sup>.

Some other restructuring efforts concerning the 'auxiliary' business areas merit treatment. Zander and Ingeström was restructured. A dedicated Alfa-Laval market company for Sweden was formed to take over that part of Zander and Ingeströms activities. Up until this point the activities of Zander and Ingeström had been left intact, apparently based on a gentlemen's agreement between Hans Stahle and the earlier owner of Zander and Ingeström dating from the purchase. However, when Zander and Ingeström was finally restructured, sales activities on the domestic market were given the same organizational form as other markets and thus the form was standardized across national markets, including Sweden.

To end this discussion of the development of the organization structure it may be worth while to look at some examples of the divisions' organization structure. This is no full account but allows a change in perspective from the corporate that has prevailed up until this point.

Following the 1986 reorganization, **Agri** remained with the same business group manager who became a business area manager. Conceptually, this change was a demotion of the status of Agri, as it was now one of twelve global product divisions, and no longer the equal of the combined industrial activities of the firm. From another point of view, the change for Agri was a reflection of a long-term process, where the agricultural related activities of Alfa-Laval had steadily lost in relative importance. As has been shown earlier, the proportion of Alfa-Laval sales generated by Agri had slowly, but steadily declined.

As discussed earlier, the business unit **Food engineering** was a product of the 1970s. The Alfa-Laval efforts towards food production systems eventually came to be united in the Lund based unit, a process that was finalized in 1978 when the Tumba-based departments were relocated to Lund. Reorganizations were plentiful. Seen over some time the organization was virtually in a state of flux, with organization studies and implementation work being carried out in quick succession. The authority of the unit gradually permeated the mixed market companies.

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<sup>73</sup> From 1988, Alfa-Laval published its account based on a tripartite division into industrial, food and agri sales. A partition that grew clearer from 1989. These "groups" were accounting constructs used only in the published reports; there was no regular internal reporting on this basis, there was no dedicated manager for the "groups" at the corporate level, or any other dedicated resources. The business areas remained the fundamental operational unit on the corporate level. The three "groups" were partly mirrored in later developments in the definition of foreign subsidiaries, which will be discussed below, but did not have any control implications in the late 1980s. As discussed in the context chapter earlier, Agri was relatively homogeneous, as was the Food category to a certain extent, although the acquisitions in convenience food especially, introduced a greater heterogeneity. The Industrial category was made up of several quite distinct business activities.

Food Engineering had reorganized as of January 1st, 1987. The reorganization was perceived as a move towards making Food Engineering a global business. It was felt that it had previously been difficult to act towards the market companies, as Food was split into a number of departments. The original idea (inspired by Erik Rhenman of SIAR) was developed not only with the Food business area in mind, but towards a division of the whole earlier industry group into two customer-oriented parts: industry and food systems. The department of Food Systems (FS) was oriented towards the market companies in the industrialized countries, Food & Dairy Int(FDI) towards developing countries and the Eastern bloc, most often selling directly to the customer. There were also product-based units, mainly serving as suppliers to FDI and FS, and a series of customer-based units, the so-called "monoliths". The monoliths were relatively autonomous units, bypassing the network of Alfa-Laval market companies and instead selling directly to their customers. It was pointed out that many of the monoliths were very successful.

A considerable part of Food's revenues came from projects, or systems sales. Large market companies had their own systems design departments, whereas smaller market companies did not. Around 50 engineers from Lund were continuously engaged in the field, at home and abroad, with projects. There were special forms of control for "joint projects", i.e. projects combining local forces in the market companies with central forces from the business area. As of 1987, Food Engineering had its own dedicated representative in each mixed market company, which was felt to have improved contact with the market.

With a change in business area management in mid 1987 when Bo Wirsén took over from Ulf Brasen, a study was commenced that eventually resulted in a 1988 reorganization into eight internal business units.

The modern **Thermal Engineering** division developed, manufactured and sold plate heat exchangers, worldwide, on a component basis. A new organization for the business area Thermal Engineering was introduced as of August 1, 1986. The focus of the change was a move away from a production orientation and the creation of the customer- and market-oriented business units, within the business area. The heads of the business units were given a consolidated responsibility across countries. This was not measured to the bottom line, but order, invoicing and gross margin were included. In mid 1987, Thermal had its own local head of operations in each market company.

Within the Food Engineering division, a department named Automation was formed in 1974 for the design of computer-based production line control and automation systems. This unit was the predecessor to the business area Automation which was centered around the Malmö based company SattControl acquired in 1986. Automation had highly skilled personnel, most of whom had university degrees in technology. Automation designed, manufactured, sold and serviced electronic systems for the automation of industrial processes. The products consisted both of hardware, essentially a small computer, and the applied software package. Examples of uses and customers outside of the food industry included the assembly line of Volvo and IKEA storage facilities. Following the merger of SattControl with the existing units, the new business area was organized with six operating divisions (Process Automation, Factory automation, Instruments, Materials Handling, Sawmill Automation and Service), and its own dedicated market companies.

Within the Alfa-Laval group, Automation formed its own global product division with foreign subsidiaries reporting directly to the business area headquarters. Subsidiaries were located in Benelux, Denmark, France, Germany, Italy, Norway, Switzerland and the UK. Several of the subsidiaries were rather small. For example, the Swiss market company had five employees. Other companies in the Alfa-Laval group were also part of the Automation business area. These were Laval automation in India, Control Instrumentation in Australia, Windeler Control in Canada and Haven Automation in south-east Asia.

The main business interface with the rest of the Alfa-Laval group was with the Food business area. Some 10 per cent of Automation's turnover was made up of sales to other Alfa-Laval units. This consisted in principle of purchases from Food. Following the acquisition, some activities from the Food business area were merged with SattControl. Production was concentrated to Malmö, combining the two companies and a R&D center was set up in Lund, again joining forces. The intergration of the international, and thus customer-related, interface was more complicated, largely because SattControl was a previous competitor of Alfa-Laval's automation units. SattControl sold its electronic control systems to industrial systems suppliers who were direct competitors of Food. During the time of study, the process of combining efforts in the marketplace was ongoing, but not finalized. The advance of the process of integration varied greatly from one country to the next. A central agreement between the two business areas was in the making, meanwhile contacts were taken and issues solved locally. In the UK, there was a cooperation where Alfa-Laval was regarded as a VIP-client of Satt Control. In Holland, the cooperation was more difficult, as the SattControl subsidiary was strong, while the Alfa Laval mixed market company was less so. In Germany, the situation was the opposite and few contacts were taken.

## **The international organization**

The national foreign subsidiary had been a most successful form of international business vehicle for Alfa-Laval. Since the early years of the century the semi-autonomous national subsidiaries had been the natural counterparts of the Swedish parent company. The emerging domestic divisions during the 1970s worked largely through informal channels to gain international influence, and the foreign subsidiaries were formally undisputed as national vehicle until the business group organization in 1979.

### *Pressures on the local organization*

Historically, the foreign subsidiaries were free to organize their activities in the way they felt most appropriate, with no demands from the parent company. In modern times, the typically had sales departments for Food and Dairy, Agri and Industry, as well as production departments, and after-sales and service departments. Larger subsidiaries had research and development facilities. There were a number of common support functions ranging from canteen to the fairly common IBM machine. All in all, the foreign subsidiary manager presided over all the functions and departments associated with a modern firm.

The internal organization of the various market companies was not uniform. During the 1970s, problems with measurement of the performance of the product divisions, i.e. difficulties with international consolidation, increased and eventually resulted in the first corporate demands on the internal organization of market companies. These demands were stated in conjunction with the business group reorganization in 1979.

The foreign subsidiaries had an organizational division between new sales departments and after-sales service and spares. The foreign subsidiaries had combined departments for after-sales service and spares, and continued to be organized in this fashion. The rationale for the combined after-sales departments was both based on historical links and the fact that Alfa Laval was built around a limited number of core technologies. Applications of these were developed and marketed by several business areas. However, as the basic number of machine types was limited, the foreign subsidiaries considered it cost effective to have only one spares inventory, one repair-shop and one service center by machine type and country. This technological/ operating basis affected the process of change towards integration of international operations.



The organization of mixed market companies was required to adapt to the business area corporate organization of 1986. This was stated as a "non negotiable demand" from the corporate office. Two of the three mixed market companies visited in 1987 had reorganized in accordance with the Alfa-Laval group organization, and the US market company also substantially restructured along these lines. The exception, the West German market company, had a local organization close to the group organization. All three had organizational charts closely mirroring the group, with local business area departments. A special point of concern, however, is the after-sales and service departments. Simply put: due to the application of a limited number of core technologies in several market segments, the number of core technologies was less than the number of divisions, and it was technically and economically impractical to have one spares and service department for each division in each country. The managerial solution to this problem varied over time and between countries. Early on, the determination of a solution was at the discretion of local management. Around 1980, the after-sales activities were beginning to be recognized and perceived by the corporate office to be poorly handled by the local subsidiaries. The industrial divisions appointed personnel for the after-sales market, but after-sales remained a separate organizational unit in the market companies.

A task force to study the overhead costs in the mixed marketing companies and the cost savings potential was formed in 1986, called the Cost Adaptation Program. A case study was performed on the Dutch MMC and delivered in April 1987. Members of the group were the COO, the Dutch MMC Managing Director, the Group Controller and BA personnel. Results indicated an overcapacity, or 'over-service', in relation to the business volume and the committee suggested a reduction in overhead capacity of the mixed market company.

By 1990, the organization of the after-sales operations was addressed by the corporate office. Logistics and repair were still combined in the local units, again because it was seen as not feasible, technically and economically, to break them apart. However, the responsibility for after-sales was being transferred to the local business area managers, who then became responsible for both new sales and after-sales. This particular change was much sought after by the local product managers interviewed in 1987. They expressed a strong sense of frustration at not being able to consolidate the profitable after-sales market.

An important observation of the change from local to cross-border orientation is the integration of domestic and international organization. In the case of Alfa-Laval, it is not really meaningful, from the late 1980s, to distinguish between the domestic and international organization. Elements of this shift could be identified on several levels. The national *legal organization* mirrored that of the corporation following the establishment of holding companies. With the restructuring of Zander & Ingeström in the late 1980s the Swedish organization became symmetrical to other national organizations. The *operating structure* came to be based on business areas - global product divisions - and dedicated market companies. *Socialization* programs, such as company culture campaigns, were a concern for the product divisions, and involved individuals from many units, regardless of national boundaries.

*From foreign subsidiaries to divisional market companies*

The process of breaking up the foreign subsidiaries along product division lines started from the Agri division, which in the 1970s began gaining control over its local operations. At this point, the legal structure remained.

The reorganization in 1979 constituted the first major formal step away from the country-based organization. The business group organization contained an explicit ambition to create dedicated market companies for the respective business groups, i.e. to form separate Agri and Industrial market companies. From this time and to the end of the 1980s, there were two kinds of market companies, "mixed" and "non-mixed". The mixed market companies (MMC) (sometimes officially referred to as "composite market companies", but internally that notion was never heard), contained both Agri and Industrial activities and reported directly to the executive management committee (the VL). The non-mixed, dedicated companies, contained either Agri or Industrial activities, and reported to the head of the business group. Thus, the MMC was a market company selling products from more than one product division, and as such the notion of a mixed market company survived into the business area organization. The crucial control difference between the two forms, was that the mixed market companies reported directly to corporate management, whereas the dedicated market companies reported to the respective product divisions.

Following the 1986 reorganization, the distinction between "mixed" and "non-mixed" market companies remained. A mixed market company in 1987 was a company with

activities in connection with several business areas, in practice that meant industrial product divisions. The scope was narrower than previously, when a mixed company had been a local subsidiary shared between Agri and Industrial activities. At the time of study in 1987, virtually none of the mixed subsidiaries according to the old definition existed. Agri was restructured as a global product division, with its own network of market companies. Instead, the MMCs performed industrial activities only, but for a number of business areas.

A process of 'unmixing' the subsidiaries accelerated with the business group reorganization. It was ongoing in 1982, and thus there was an emerging division into separate international structures for the business groups. By 1987, the division of Agri and Industrial companies had been realized, with Agri as an organizationally independent business area, with its own set of foreign subsidiaries. The industrial group was split up in business areas, sharing resources in market companies internationally. However, resource-sharing limited itself to service and support activities, such as general overheads, localization, information systems and administrative routines. Marketing and sales of new units or systems was not shared and was managed, formally and in practice, from the business area head office.

In 1987, the Industrial MMCs remained as legal units, while the operational control had shifted towards the global divisions - the Business Areas, which had, and to varying degrees exercised, the strategy formulation and budgeting prerogative. The momentum of the shift varied between the divisions.

Towards the end of the 1980s, the legal split of the foreign subsidiaries accelerated in pace. As of 1989, the German Food Engineering operations formed a separate dedicated market company. Likewise its French counterpart. Thereby, in Germany and France an Agri, a Food Engineering and an Industry company was born out of the one-time national foreign subsidiaries. The remaining mixed market company in these two countries was, then, a combined Separation (including Marine & Power) and Thermal company. If there were two 'industrial' companies respectively in Germany and France, there were three in the US; a Food Engineering, a Separation and a Thermal company. The practice described here was obviously not uniform, or standardized between countries, but follows an adaptive line, responsive to local needs<sup>74</sup>.

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<sup>74</sup> Yet another step in foreign subsidiary structure was being taken in 1991. The notion of the national market company, which equates the company with the respective countries was being challenged by a regional outlook. The policy concerned the industrial activities, and was to provide regional resources, a "back-up organization", for systems sales, combined with national sales and service organizations. The countries first affected were Belgium and Holland, which were to be combined as of 1991. Other regions

### *Decreasing relative and absolute size of the traditional foreign subsidiaries*

The relative importance of the foreign subsidiaries, as a source of sales volume for the group, decreased over the 1980s. In a sense, the traditional foreign subsidiaries were bypassed in the development of the business of Alfa-Laval. *Firstly*, several large acquired units retained their international pre-acquisition organization, and had not been merged with the existing network of mixed market companies. In 1981, the West German Bran + Lubbe was acquired, and kept its own marketing organization. The acquisition of SattControl in 1986 resulted in the formation of the Automation business area as the related business in earlier Industry group was merged with SattControl. In the international markets, the process of combining SattControl and Alfa-Laval forces was ongoing in 1987, but with the aim of establishing separate Automation subsidiaries outside of the national subsidiaries. The acquisition of Euroheat in 1987 followed the same pattern. Euroheat was merged with the Thermal Engineering division, but internationally formed Thermal's third major distribution network alongside the Alfa-Laval subsidiaries and distributorships. *Secondly*, Agri was ultimately organized as a stand alone unit following the profitability problems in 1984. In 1987, there were only two minor subsidiaries left with the earlier Industry and Agri mixed format. The mixed market companies had become industrial mixed market companies. *Thirdly*, a complete split of the subsidiaries along divisional lines was ongoing in the late 1980s, first in the United States.

The above factors combined to a decrease in the relative sales that were generated through the old foreign subsidiary structure. Other factors resulted in a decrease in the absolute size of these units: the foreign companies rationalized their operations over time, resulting in a substantial decrease in absolute number of employees.

### *National holding companies*

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were intended to be Germany, with Austria and Switzerland (specialists in Glinde, Germany), North America including Mexico, South America, the UK and Ireland (specialists in Brentford, UK), Portugal and Spain (specialists in Spain), Italy, Greece and Turkey (specialists in Italy). This regional division of responsibilities had been in operation for some time in the ASEAN countries, with a regional center in Singapore.

In several ways, the legal structure of the domestic and international operations of Alfa-Laval has not always been equal to the operating line of authority. In the early days, there was little or no difference, but a symmetry between operation and legal structure. There was a parent company in Sweden, exporting goods to foreign companies - wholly owned subsidiaries.

The changes we have seen in the operational structure created an asymmetry between operating and legal structure, not remedied until the creation of local holding companies in 1987, when holding companies as formal and legal centers of country investments were formed. The holding companies were the owners of the Alfa-Laval capital in the national market, also for market companies within global product divisions, for example Agri. The process of creating these holding companies was ongoing in 1987, but holding companies existed at that point in Denmark, Germany, Holland and Great Britain.

The holding companies meant that the local legal structure came to mirror the Swedish corporate structure. Alfa-Laval AB had its local opposite, the holding company. The structure made it possible to create a local, legal opposite to the incorporated domestic operations of the business area. This legal separation into local companies was implemented during the period for Agri. The above discussion on the later formal 'unmixing' of mixed market companies was carried out under the holding company umbrella. No doubt, the holding company construction has been of importance in facilitating these changes.

Heading the local holding company was the manager of the largest company in the country, a policy which was implemented by 1990. For example, in France, the manager for the industrial market company (S and T activities) was also holding company manager. In Great Britain, s/he was the Industry company manager. The exception to this rule was the US, where the holding company manager did not have any operating responsibility, but was dedicated to the holding company.

By the mid 1987, a holding company controlled the Alfa-Laval investments in *West Germany*. There was a substantial number of companies owned, although some were dormant (in 1990 there were 17 companies of which five dormant); the three most important being Alfa-Laval Agrar GmbH, i.e. the Agri market company, Bran + Lubbe and Alfa-Laval Industrietechnik GmbH, the mixed market company for industrial products. The chairman of all these companies in 1987 was Nils Beckstrand, long-time managing director for the Alfa Laval German operations, retired from an executive position in the mixed market company. The board met three times a year. Controlling the Alfa-Laval companies in *Britain*, in 1987, was a local holding company. It was headed by a board consisting of the CEO, the GMR, the local MD of the mixed marketing company, the local financial officer and an external representative. However, it should be noted that the formal boards of national holding companies were not of any practical operational importance. The holding company formally approved the budgets of the Alfa-Laval companies in Britain. As of the first of January 1986, the *Dutch* operations of Alfa-Laval were organized with a non-operative local holding company as the controlling unit. The board of the holding company consisted of the Alfa-Laval CEO, COO and CFO. Under the holding company, there were four wholly owned subsidiaries: Bran + Lubbe, Agri, Alfa-Laval Industrie B.V. and Vastgoed, a company controlling the Alfa Laval

real estate in Holland. As of the same date (86.01.01) Agri was made a separate legal entity. Industrie B.V. was headed by a board of the same constitution as the holding company board. Managing Director of Alfa-Laval Industrie, as well as managing director of the holding company was Theo de Kimpe. He also held the chairman position of Agri, Vastgoed and SattControl.

The question is whether the creation of holding companies had any operational control implications, apart from the economic gains from benefits arising from taxation policies. The manager of a Mixed Market Company reported formally to the board of the holding company, as did, for example, the Agri local company manager. This may have had subtle effects on the status of the Mixed Market Company. The holding companies initially had limited operational control implications. But they introduced a standardized legal structure throughout the international firm as a focus for the investments.

#### *Subsidiaries' board of directors*

The role of the subsidiary board of directors had varied between regions, but generally moved towards a relatively weak position with no operative control. The subsidiary board of directors had not been a major control instrument in Europe in modern times. There was a regional standardization of practice that probably had to do with the relatively limited physical distances. Almost the opposite was true in the US, where the board still exerted an influence on local management in 1982 - it engaged itself in the operations, was active in the bonus system and demanded special reports. This was a reminder of the times when the distant and big US Lavalco had been a more or less autonomous firm. Still in 1982, the boards' involvement caused some frustration for line managers, who generally regarded the link to Swedish units as more important than the local board. A parent company manager in 1982 remarked:

*"The local management probably regards the subsidiary board as some form of inquisition."*

In 1987, the local market companies' boards were not acting as control mechanisms. The board of directors had an advisory function for all market companies, whether mixed or own companies. The previous external representatives on the US market company's board were no longer present in 1987. The market companies of Brazil and Australia still had boards with substantial control function, due to distance, and local market and institutional characteristics.

The emerging product divisions had over the 1970s little formal influence in local downstream operations. Instead, beginning with the acquired Danish factories in the early 1970s, manufacturing activities were the first to be addressed. Logistics, marketing, sales and service remained a local responsibility. The first formal changes came in 1979. There was a formal matrix instituted in 1979, a product / area matrix, with divisions and market companies as counterparts. During this period, the local product manager only reported formally to the local market company manager. Consequently, the matrix of the industrial group was initially between the mixed market company manager and the product division, but not formally stretching within the market company. In fact, the mixed market company manager was referred to as the "king of the country". In 1982, local product managers in the MMCs reported to the MMC manager. There was no dual report structure on this level, contrary to the official description of the Industry group as a matrix. The matrix was between the MMC manager and the product division manager.

The relationship between business areas and mixed market companies was formally stated, in documents, at the time of the introduction of the business area organization. The business area had the global responsibility for the profitability of its products. That means that the business area was to formulate goals, strategies and budget for its operations. In conjunction with the mixed market companies the implementation<sup>75</sup> at the customer interface - marketing and other actions - was to be planned and executed. The business area and mixed market companies were to be seen as partners in a common business operation. Profitability was to be measured through the entire organization and consolidated every month in the business area. The market companies which reported to more than one business area (mixed companies), had a more complex relationships to the home front than did the dedicated market companies. The presidents of mixed companies reported formally to their boards, on which the Executive Group Management was represented by a GMR (Group Management Responsible). In addition to its legal function, the local board acted primarily in an advisory capacity. The operative management of the subsidiaries was stated and intended to function according to the following principles:

- Cooperation between the business area head and the market company president should be based on understanding and respect for mutual interests and competences.

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<sup>75</sup> In the Swedish corporate documents: "det praktiska arbetet med marknadsföring och andra åtgärder."

- The head of a business area is responsible for the strategic planning and budget process within his area. Goals, guidelines and parameters for business area operations within the subsidiary are to be formulated jointly by the head of a business area and the president of a market company. ("Partnership approach")

- The president of the market company is responsible for the implementation of plans and budgets, as well as for the subsidiary's financial and administrative activities. All subsidiary personnel will report to the president of the market company, who is responsible for hiring, dismissal, remuneration, bonuses, etc.

- Operative issues which are strategic, policy-related or long-term in nature, in addition to issues of substantial financial importance, should be resolved through close cooperation between the business area head and president of the market company. In those instances where an issue cannot be resolved, the GMR may intervene.

From the corporate point of view this was no longer a matrix, but a near-global divisionalization, with defined responsibilities on the local level. However, albeit the responsibilities were defined, and in the manner that the division had global prerogative for issues of strategy and budget, there was some matrix-style effects on the local level, concerning especially the local product-, or business area manager. The head of the local business area reported both to the business area manager and to the local market company manager. Thus, on the local level a de facto matrix had emerged, a dual command structure, which was amply commented upon by mixed market company managers. Some commented that

*"there was no matrix before, but there is now".*

In a sense, the matrix had moved down one level. From an industry group matrix, involving division and market company managers, to within the market companies, focusing on the local product manager who was given formal support to act in line with the division's interests.

For example, in the German MMC, following the Alfa-Laval reorganization in 1986, the local manager for the combined Thermal, Separation and Marine & Power division actually had four bosses; the local managing director and one from each business area. The Food manager in Glinde had two bosses, the local managing director and the Food business area manager in Lund.

The product divisions became the focal point of the operating structure. Interestingly, there was an emerging regional structure, possibly as a counterpoint to the product focus.



This was identifiable in the division of geographic responsibility of members of the corporate management committee, and in the food systems specialist organization. The regional structure was a definition of the geographic dimension of the firm's activities larger than the individual nation state. Interestingly, the emerging regional structure seemed based on cultural affinity of the grouped nations, and points at the possibility of a cultural basis for differentiation of organizational units.

The emerging formalized regions reflected elements of past management practice. The European market companies had many similarities between them, whereas the United States subsidiary presented a somewhat different case. The European markets had always been the most important regional market for Alfa-Laval, and the market companies had similar relationships with the corporate office and changes occurred in the same sequence. With the developments in the late 1980s - the holding companies and continuing split of mixed market companies - there was an emerging symmetry, and thus a global pattern, but differences remained, such as the dedicated holding company manager in the US.

In the previous section some examples were given of the divisions' organization structure. Similarly, some examples will be given of the foreign subsidiaries internal organization structure. Again no full account is attempted. Instead these examples serve to illustrate the discussion of the principal development patterns discussed above. Some elements of the administrative histories of these units will be given.

The Alfa-Laval activities in the **United Kingdom** were organized, in 1982, with an Industrial group and Agri, both headed by the local market company manager. In practice, the Agri activities were guided from the division's headquarters in Sweden. Agri was located separately, in Cwmbran, Wales, and one of the members of the Agri group central management committee was the British Agri manager, contributing to the independent nature of the British Agri operations vis-à-vis the formal link to the mixed market company. This real but informal independence was institutionalized in the mid-1980s and Agri UK was made a separate company. The incorporation of the Swedish product divisions in 1983 had not in itself had any effect on local organization. The business area organization included a demand that local organization comply with the corporate. Also, a holding company was formed in Britain as of 1987. As of first of January 1987, the local mixed market company was organized with a series of local business areas plus a Spares, Repairs and Service department (SRS). SRS included a separator repair-shop, a plate heat exchanger assembly and regasketing plant. All activities were located in Brentford, on the outskirts of London, towards Heathrow Airport.

The central overhead capacity and costs were collected as UK Corporate. Functions performed were personnel - "hire and fire", training, trainees, office services, microfiche and canteen, finance-audit, banking, and taxation, information systems, telephone etc, site service, vehicles, and the corporate quality control staff. Finance was part of the business area Finance.

In **Germany** (West Germany), the Agri activities had been a separate operation since the early 1970s, and a legally separate entity called the Alfa-Laval Agrar GmbH. Up until that point the name Bergedorfer Eisenwerk had been associated with the German activities of Alfa-Laval, but in connection with the restructuring of the German business in the early 1970s, which included a closure of the old Eisenwerk site and a move to Glinde outside the Hamburg city limits, the German organizational units were given "Alfa-Laval" names. After that, there was a mixed market company handling the industrial activities; Alfa-Laval Industrietechnik. Both companies were located in the same building in Glinde; the building was the property of Industrietechnik, and Agrar rented space. Thus, in 1982, the local organization mirrored the corporate business group organization better than most countries. A holding company was formed in 1987. The overall organization of the mixed market company, Industrietechnik, had not changed since the

business area reorganization. However, it was organized with a separate F department, a combined T, S, and M&P department (with one manager for the three combined, and three separate product managers) and a spares, repairs and service department: IS (Industrial Service). IS was internally organized as a matrix from January 1, 1987.

Common overhead costs included controller, administration, information systems, logistics and a local finance company.

Industrie B.V., the mixed market company for industrial activities in **Holland**, reorganized on 1 January, 1986. The company thereby had a business area organization, with five local business areas plus a spares and service department. There were no production units, although the industrial service and spares department included a high-tech regasketing plant for plate heat exchangers, located in Rotterdam, as well as a training center.

The first step in the series of organization changes during the 1980s had been to make the Agri operations independent from the industrial activities. This change had little to do with the business area reorganization, and had started somewhat earlier. Agri was a considered a different kind of business than the industry oriented operations and had always maintained a high level of direct contacts between Sweden and Holland. Industrie B.V. then reorganized on 1 January 1986, a change contemporary to, but developed independently of, the Alfa Laval change. As Agri concentrated their activities in Groenningen, Industrie B.V. concentrated in the new building in Maarsen. A Rotterdam office was maintained in order for Marine & Power to have a presence in the area. Also, the regasketing plant for thermal plate heat exchangers was located in Rotterdam. The regasketing plant was part of the Service department.

Agri and Marine and Power had traditionally maintained strong links with Sweden. Marine and Power was considered a worldwide operation, a "special world". Food and Dairy had weaker integration with other units and the Swedish application center while Thermal and Separation had very weak links. Industrial Service and Spares was basically a local operation. There had been four local management staffs: Finance/Control, General matters (=service), Mgmt secretary/Legal and Personnel. Overall, the change did away with intermediary organization levels, creating a flat organization, and intended to facilitate the work for local business areas and their contacts with respective business area headquarters in Sweden. For example, the now business area manager of Separation was earlier a colleague of Thermal and subordinate to the Industrial division manager, who was subordinate to the MD. Whereas the local business area managers earlier, i.e. before 1986, had one boss, which was the local managing director of the mixed market company, they now had two: the local MD and the business area MD. The organization changes had the greatest effect on the Separation and Thermal business areas, who now formed their own respective business areas and reported directly to the MD. Marine and Power also was less hampered after the change, for the same reasons. Food Engineering was less affected by the change, likewise the Service and Spares department. Service and Spares reported to the "club of four": F, M, T and S, which functioned as a formal advisory board. There had been pressures to split up the department, especially from Food Engineering.

The local business area manager's prime responsibility was to support the sales of new equipment and systems. Secondary to that was the sales of spares. Business areas did not have the right to move from the building in Maarsen. Salaries were determined locally. Recruiting was a local decision, although replacing the local business manager needed to be coordinated with the business area headquarters. Bonuses were based on local results and paid by the mixed market company.

The **United States** subsidiary had a more 'corporate' organization in 1982 than the other subsidiaries. Under the national mixed market company manager, "the king of the country", there were dedicated Industry and Agri group managers, which in their turn relied upon divisional managers. Due to reorganizations, the company was not accessible in 1987. During this time, the company, legally and operationally, changed face. A holding company was formed in 1987, with a dedicated manager, unlike other countries. The industrial operations were more radically split up along divisional lines than any other country at that point in time, and the Agri operations, which had already been relatively independent from the mixed market company in 1982, formed a separate dedicated market company.

## **Patterns of organization structures development**

Up until the late 1960s, Alfa-Laval had an international management structure based on a domestic parent company, which was functionally organized, exporting to country-defined foreign subsidiaries. The foreign subsidiaries were free to organize local activities as they saw fit.

### *Forming (domestic) divisions and national foreign subsidiaries*

Agri was formed in 1963 as a semi-autonomous unit. However, the domestic structure was transformed into an in-between form in 1968, when the parent company was divisionalized. From 1968 to 1979, this hybrid form exhibited domestic product divisions and national foreign subsidiaries; i.e. the international organization structure was not affected formally by the domestic changes. Changes in domestic organization structure began almost a decade before the changes in international organization.

In the 1970s, the domestic organization was based upon an - increasing - number of product divisions, reporting directly to the managing director. The international organization was based on national foreign subsidiaries, free to organize local activities as they saw fit.

### *The formation of global product divisions 1979 - 1990*

The international organization structure retained its mother-daughter traits long after the parent company was divisionalized in 1968. Not until 1979 was the fundamentally national orientation of the formal international organization broken. The ensuing period may in itself be divided into two phases: Firstly, towards Agri and Industry market companies 1979-1986, and, secondly, towards business area market companies 1986-1990.

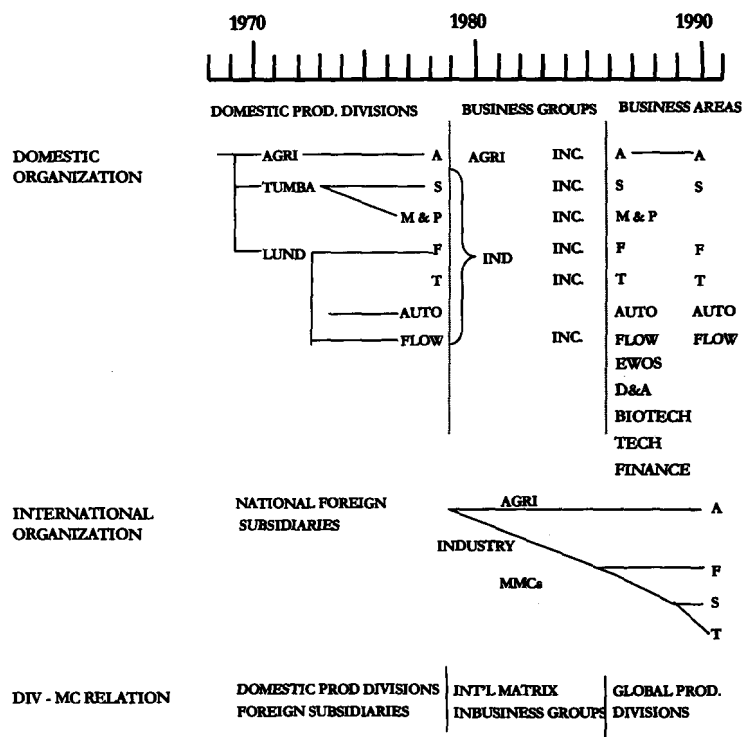
There was a great complexity in the management structures in the first half of the 1980s - dual focus, weak international matrix with shifting bias, and many organizational levels with an increasing product diversity in the Industry Group. The dedicated market companies and the mixed market companies had slightly varying reporting relationships. It was in a sense a matrix on all levels except within foreign subsidiaries.

From 1979 to 1986, there was a successive split of the foreign subsidiaries into Agri and Industrial market companies. Shortly after the introduction of the business area

organization in 1986, a process started in which the Industrial market companies were successively divided into smaller, and more and more defined, pieces. The reorganization into customer-oriented business groups in 1979 created two-tier product divisions, with the ambition of becoming global divisions with their own international organization. The split of national subsidiaries was a lengthy process, and the international organization continued with subsidiaries serving both business groups (mixed market companies), and subsidiaries dedicated to their respective business group for some years. The mixed market companies still reported to the corporate office, retaining elements of a mother-daughter structure. The year 1987 was somewhat of a breaking point. In that year, the US market company was undergoing significant reorganization towards dedicated divisional units and that model was transferred to the European markets.

Both the domestic and international organization was affected by the reorganization in 1986. The business group level was abolished, which formally was a more dramatic move than in practice. Instead, the Industrial product divisions became stand-alone units business areas, intended to be global product divisions, and formally equipped with the prerogative regarding international strategy and budgeting vis-à-vis the market companies. Several global product divisions were quickly established; Agri, Bran+Lubbe, Ewos, Biotechnology, Flow equipment and Automation. However, the separation and plate heat exchanger based core businesses, related and with substantial interdependency manifested for example in internal sales, retained a mixed market company international structure also after 1986. In the late 1980s, the interdependency was addressed as a result of a further break up of the combined market companies, and as a result of the separation of value-adding steps of marketing / sales and after-sales service and support respectively, and the different locational practices of each; support was increasingly handled on a regional rather than a national scale.

Figure. Development of organization structures in Alfa-Laval 1970 - 1990.





## Chapter 7

### ALFA-LAVAL; DEVELOPMENT OF ADMINISTRATIVE SYSTEMS

*The development of manuals and instructions; the yearly planning cycle; economic objectives; a short note on transfer prices; periodical reports; remuneration, transmitting and processing information; treasury and finance; patterns of administrative systems development.*

In the post World War II Alfa-Laval, and still towards 1970, the formal administrative coordination of international activities was relatively weak with what seems like a limited capability on the part of the parent company to actually gain insight into local affairs, at least not without the active cooperation of the foreign subsidiary manager. Local profitability at year-end and dividends paid were the formal performance measures for a long time. Local treasury and finance in accordance with local regulations coupled with local bank relationships was the norm. That, in conjunction with varying local organization structures made comparison on a finer level than foreign subsidiary difficult. Economic information was processed locally through varying, unstandardized accounting systems and eventually shipped by post and telex to the parent company.

As we saw in the previous chapter, the changes in organization structures over the 1970s and 1980s were profound and multilevel, and the changes over the 1980s came in quick succession. The process started with addressing the domestic parent company issues in the 1970s, and from 1979 onwards, changes were made to the international organization structures that eventually led to the formation of global product divisions as the main

operating vehicle. These changes in departmentalization were accompanied by a development of a new set of international administrative coordination systems.

## **The development of manuals and instructions**

### *ERM and VL instructions*

The fundament for the activities and processes that provided administrative coordination from 1970 up until 1988 was the *Economic Reports Manual (ERM)*. The ERM specified all formal control systems, budgeting procedure and periodical reporting.

The ERM was first introduced in 1970, itself a replacement of an older Economic Reports Handbook (ERH). The ERM was a standardized package, with pre-specified forms and manuals for their use, covering all business areas and market companies. In 1970, it introduced standardized definitions of economic concepts.

The ERM was developed with the explicit intent to replace local economic planning and control systems with standardized, company- wide and international administrative routines. The introduction proved to be a lengthy process during the 1970s; the US subsidiary did not fully comply with the ERM until 1979. The ERM was presented in a binder and continuously updated. A letter with minor changes and adjustments was sent out almost every year, with major changes on some occasions, for example in 1976. It should be emphasized that during the 1970s the development of the administrative systems was aimed at foreign subsidiaries as a whole. Standardization and formalization resulted in in better pooled<sup>76</sup> information and thereby an acquired control on the part of the parent company. The Swedish parent company in a sense was developing traits of a corporate headquarters, acquiring administrative control over national foreign subsidiaries.

Throughout the 1970s, there were no comparable units to consolidate across countries on a 'sub-subsidiary', i.e. divisional level - neither in Sweden nor in the subsidiaries. In this respect, the lack of uniformity in the organizational systems had an identifiable effect on the administrative systems and the potential for achieving administrative control. Not only was the budgeting process affected, but also the scope for formulating financial objectives and measuring the performance. In the business group reorganization in 1979, a demand for uniform internal organization structure of the foreign subsidiaries was included; a change

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<sup>76</sup>Thompson's (1967) term.



intended to increase the potential for consolidating the international activities pertaining to the product divisions, and measuring performance, not only domestic, but all the way to the customer. This change was a prerogative for the product divisions to play a greater part in international operations as well as in the budgeting process, and the setting of economic objectives.

In 1974 a 'quick report' on sales and gross margin was added to the reporting package, the so-called GROSP.

The basic properties of the ERM proved robust over the eighties and remained over the business group era, into the first years of the business area organization. The new organization of 1986 into business areas demanded a major update and revision of the ERM, although the basic framework was initially left intact.

At the outset of the business area organization, in 1986, the business areas were the twelve accounted for in the previous section. In theory, all revenues and costs should be accountable to a business area. But the twelve operating business areas could not in practice be held accountable for all the costs in the Alfa-Laval group. There was, for example, not easily distributable overhead cost centrally in the parent company as well as in the still mixed market companies. Accounting "business areas" were created to accommodate for these costs. As the accounting evolved around the business area concept, in a sense, another five "business areas" emerged:

- Real Estate Sweden
- Central worldwide, which was made up of all overhead costs worldwide, that were not accountable to any business area. These included Executive Group Management and central staffs, and mixed market company overhead costs and real estate locally.
- Zander & Ingeström, the combined market company for Nordic countries, agent for several non-Alfa-Laval products as well as original equipment manufacturer, headquartered in Alvik, Stockholm.
- Overseas; East Europe, Arabia and Africa. A business area for state trading and developing countries.
- Others, a number of unrelated businesses remaining from the previous "Others group", for example Olofström Kraft.

Acquired units were compelled to use the standardized Alfa-Laval administrative framework. For example, it was required that the Automation business area, after the acquisition of SattControl, changed its economic control system, and use the ERM employed by the Alfa-Laval group. This was also done, and without too many complications. Technically, the implementation of ERM in SattControl meant a few new accounting principles. Some training on the ERM was still needed in mid-1987, but the economic planning and control system was functioning.

VL instructions were a two binder set of decrees from the parent company office. It contained administrative policy decisions and organization charts. The abbreviation VL stands for the Swedish words 'verkställande ledning' - executive management in English, which indicates the source of the instructions. The binder form itself is indicative of its use. Whenever a change in policy or organization structure was deemed warranted a new form

was sent out to replace existing pages. During the 1970s, the VL instructions grew to two full binders and became an all encompassing policy manual of some complexity. A reaction came in 1980 when the new management simplified the manual.

### *The MISAL and KL instructions*

In 1986, concurrently with the major organizational changes at the time, the VL instructions changed name and appearance. It became the 'KL instructions' and was presented in a new binder with a more appealing design than the rather stern, dark-blue vinyl VL binder with the official name ALCOM in white block letters. KL stands for the Swedish word 'koncernledning', which translates into corporate management, and interestingly the Swedish abbreviation was also used throughout the firm in the late 1980s. A foreign subsidiary manager in 1987 pointed at his bookshelf and commented that

*"I have two bibles: ERM and KL instructions"*

In 1986, a corporate task force was appointed to define the future economic coordination and control system. As the operational business areas in 1986 were given responsibility for international performance, they demanded more detailed, more accurate and quicker economic information from the local units. An updated version of the Economic Reports Manual (ERM) had been presented to accommodate for the new organization of 1986, including the 'accounting' business areas detailed above. Overall, changes in the formal management information systems were trailing the changes in formal organization. Because of the organizational changes, which for example had an effect of multiplying the reporting demands, the ERM format was stretched to its limitations and work was ongoing in 1987 to develop a new manual. The greatest strains on the ERM had been the diversification of the groups' activities amplified by the business area reorganization, and a dramatic increase in transferred information from mixed market companies to central staffs following the business area reorganization. As of the 1989 budgeting (in the fall of 1988), the ERM was replaced by a new manual for which a new name was felt warranted; *MISAL (Management Information Systems Alfa-Laval)*.

### **The yearly planning cycle**

In the 'old' times, local business planning was at the discretion of the national subsidiary. It purchased products from the parent company, but adapted these in various local packages, or sold them by component through locally developed means. With local production facilities, local R&D and warehouse facilities, the larger foreign subsidiaries had significant capacity to pursue locally identified business opportunities. It also had its own local finance departments with local bank relations, and invoiced its customers in local forms. The relationship to the parent company was in many respects the same as towards a supplier.

The yearly planning cycle was essentially the same throughout the 1980s. The spring was a time for strategic discussions and the fall meant a lengthy and in-depth budget process. The budget process started in late summer with forecasts from the individual sales departments in the market companies and similar detailed information from other units, and ended with a full Alfa-Laval budget for the upcoming year at Christmas time.

### *Spring - the long-range planning*

There was a group-wide long-range planning (LRP) process, performed yearly. This yielded basically a scenario which in turn yielded financial objectives for the group. For example, the LRP may have indicated an average group ROC of 25 per cent. This would then influence the financial objectives, set for the different Business Areas from 1986. Should the incoming budgets for the Business Areas be below the indicated group average, a round of talks would start. The business areas and the mixed market companies participated in 1987. The LRP was a remainder from the time before business areas and its status and importance a bit unclear in 1987. Its importance in the late 1980s, seemed to be more as a determinant of financial objectives than as strategic management tool.

There had been an emerging separation of responsibility for strategy formulation between the parent company and the divisions. Still in 1980, a Boston Consulting Group study was initiated by the parent company as an all-Alfa-Laval study, including both divisions and market companies. The Boston Consulting Group was hired to perform a major review of the company's businesses and strategies. The work involved up to 100 Alfa-Laval managers and employees in all parts of the firm, domestic and international. The effects of this work resounded throughout the study period, especially in 1982, and the work was often referred to. This effort was obviously influential in the language-building in the firm. A study with such a broad *and* deep organizational scope would hardly have been commissioned in the

late 1980s. With the Business Areas designated as business strategic centers, a corporate initiative to the effect of the BCG study would no doubt have been seen as interference.

Eric Rehnman, and the SLAR group, were instrumental in the making of the business group organization in the late 1970s. As a sign of the times of the growing self esteem of the incorporated divisions, Eric Rehnman was also called in by Food Engineering in 1984, which eventually resulted in a corporate reorganization proposal presented to the corporate management. The ensuing work that resulted in the formal Business Area reorganization was done with the help of Nordic Management, of Stockholm, in 1985/86.

Throughout the 1980s, Howard Perlmutter, of the Wharton School, seems to have functioned as something of a personal advisor to managing director Harry Faulkner, as well as structuring the "International Top Management" conferences each fall.

Responsibility for the business strategy development of the firm was formally delegated to the global product divisions, the Business Areas, in 1986. The Business Areas were given the responsibility for initiating the development of business strategies, for developing strategic programs, and were free to develop their own processes and methodologies to determine their respective business strategies. This indicated an explicit decentralization of business strategic initiative, from corporate to the global product divisions. Also, the business areas had the strategic prerogative vis-à-vis the market companies. Implementation of strategies in the international markets was stated to be a joint interest between the business areas and the mixed market companies.

This division of responsibilities seems to indicate a rather top-down view of business development. However, it should rather be interpreted thus, that the center of business strategic development was now the global product divisions, rather than the management of the country subsidiaries, i.e. the mixed market companies. The business areas had their own representatives in the MMCs, their own international staff of employees, and whether the local representatives were involved in the strategy development of the business area or not was an issue to be addressed by each business area separately. That is, the individual business areas may have had a top-down view or bottom-up view of strategy development. To make a general statement in this respect on the Alfa-Laval group strategic process in the late 1980s is consequently of little value, although it is fair to say that in 1987, the quality of strategy development varied both in process and content between the business areas.

Another example: from 1984 onwards, Agri developed a yearly business plan - a strategic plan developed in a format addressing the Agri business issues. Not a spring effort, it involved a significant amount of work from August to November. The plan would also serve as a base for coordination and control of market companies.

Corporate level campaigns and task forces with defined missions were common managerial practice over the last few decades. A number of corporate committees and task forces were formed to deal with issues either left unresolved or unforeseen at the time of

the formal implementation of the new organization in 1986. Some will be treated further on, and include a cost study of the foreign subsidiaries, an economic reports group and several financial task forces.

### *Fall - the budget process*

The ERM put the business figures in a relatively standardized information package, but it is not entirely clear as to how coordinated the budget work was between the parent company and the foreign subsidiaries in the early 1970s. The main budgeting unit internationally was definitely the foreign subsidiary, as varying local organization structures made international consolidation of local divisional or departmental figures difficult. The only meaningful set of accounts throughout the 1970s was for the foreign subsidiary as a whole.

In 1982, the budget process was bottom-up, based on discussion between market companies, business group managers and the VL. Second-tier division, i.e., product divisions of the Industrial group and Agri divisions were involved indirectly, through the group managers. The informal influence of the product divisions may in some cases have been significantly greater than their formal role in the process. Some divisions at this point in time required significant coordination between international units, for example Marine & Power Engineering which, for example, from around 1980 had internationally coordinated pricing policies.

In the budget process at this point in time however, the business group managers had an important role. The lengthy budget process served to inform the parent company - largely informally through the business group managers - in detail about local operations.

For example, in the budgeting process for the American subsidiary, Industry Group manager Lars Halldén would go through the budget for the local Industry group and Agri Group manager Lennart Berglind would go through the budget for the local Agri group. Managing director Harry Faulkner and Financial director Lars Trane would then discuss the budget for the entire American mixed market company with the subsidiary manager. Any points of dispute between overall profitability and for example Industry Group program targets would be solved informally and in consensus, often over the telephone. In a sense, the business group managers made personal agreements with their counterparts, rather than merely signing a budget document.

The developments in the Business Group era, from 1979 to 1986, gradually led to a new decentralization of the administrative work, from parent company headquarters to the divisions. During the early part of the 1980s, the divisions built up their capacity to handle

these matters. Accounting and control staffs were formed, with an emerging decentralization of information systems technology.

Initially, however, the reorganization meant little change in the budgeting process as the 'industrial' mixed market companies remained with Business Group manager Lars Halldén as the counterpart. The organizational changes of 1986 indicated a greater role for the earlier product divisions that now had become business areas.

The formalization increased over the 1980s. The importance of the figures in the budget as a control tool was felt to have had increased from the mid-1980s, much as a result of the pressures from Executive Group Management to have a forecast they felt that they could trust following the 1984 downturn. The 1984 problems spawned mistrust towards the management information system and corporate management felt that insufficient warning had been channeled through the system. Also, more actors had an interest in the mixed market company's budget. The mixed market company manager was solely responsible for local overhead and other cost items, and for the - profit generating - combined after-sales and service departments. A more explicit link had developed between bonus and budget than had previously been the case.

*"Earlier it was no disaster if you were out of line with the budget. This has changed."*

One of the effects of this new development was what the group controller staff found to be a pronounced conservatism in the budgets for 1987. In this respect then, the management system had become more formalized in the business area organization than had previously been the case.

The budget procedure in terms of local product areas in the remaining mixed market companies had changed, following the 1986 reorganization. Earlier, the local managing director alone had accepted the local product departments' budgets. Following the change, both local and business area management were involved in the process, and there was a more pronounced matrix style in the budgeting in the local market companies.

The budget process for the group in 1987, arranged in chronological order.

1. General guidelines from the CEO. General concerns on profitability and growth and group priorities. June.
2. Technical guidelines from the Group Controller. June.
3. Business areas issues goals in some cases.
4. Market companies start the local budgeting work in July/August. Judgments on orders received, etc..
5. Market company budgets finished early fall. The headquarters representative (the GMR) visited the big market companies for discussions.

6. In a "standard" year, November 20th was the deadline for sending the budget to the group controller staff. All are not finished (=approved) by then. Some latecomers are structural, for example Finance, which builds its budget on the input from the others. In 1987, all business areas and the four largest market company budgets were in by November 22nd. On November 25th, lists were sent to the parent company (KEM). On November 26th, the budget totals were sent by telefax to the business areas. The same day, specification lists were sent by mail to the business areas, specified by company. On November 27th, the finance company delivered its budget, based on the BA budgets. By December 7th, the BAs delivered their adjustments. Budget meetings were held all through the above described time period.

7. The ambition was to deliver the preliminary Group budget to Executive Group Management as a "Christmas present".

8. The budget was subjected to the Alfa Laval board of directors at the end of January.

All members of the corporate management travelled extensively. For example, with the market companies COO Lars Halldén had regular, formal budget meetings in the fall at which local operations were discussed in great detail. As pointed out earlier, the budget had in a sense the character of a personal agreement between Lars Halldén and the local counterpart. The market companies considered the amount of visits from Sweden as nothing less than baffling. For example, the British MMC counted a total of 850 visits from Sweden in 1986. The personal contacts and visits were an important aspect in the functioning of Alfa-Laval.

For Automation, budgeting for 1987 was done within the Alfa-Laval and ERM format, and was technically satisfying. Interestingly the most important goals from the business area managements' point of view were operating earnings and overall profitability. For some SattControl subsidiaries, the goal formulation had changed significantly as the previous owner of SattControl had focused on solidity and measurements of capital. Alfa-Laval was felt to be more profit-oriented. For economic planning and control, Agri used the ERM without modification. Overall, it was felt to work well.

In the late 1980s, the budget process was moving still further in the direction of divisional influence. Increasingly, the mixed market companies were split into business area-dedicated market companies. The importance of the business areas in the budgeting procedure meant that the budget for the remaining mixed market companies was made in bits and pieces, and then essentially pasted together. Operating matters were internationally the responsibility of the product divisions - now business areas. Return on investment and overall profitability were the concern of the corporate office.

## **Economic objectives**

In a period of transformation, with rapid change in organization structures, the economic objectives also change over time, in several dimensions. The measurements changed in definition, both in the basis used for deriving the measurements, and in complexity. The

number of measurements for any one unit changed. The level of formality of measurements changed. The number of organizational levels varied, which is one of the reasons why the contributors to the goal-formulation process varied. Also, the level of accord between parties as to which economic objectives were of importance, i.e. the perception of relative importance, varied. Seen over the time studied, and across levels, the economic objectives of Alfa-Laval presented an arena of experimentation and change, and of almost continuous redefinition in content and process. In the following, the main lines of development will be discussed with examples of the experimentation.

In the very early days, objectives seem to have been set in a dialogue between parent company and the local manager. The issues confronting the company were those of a young growing firm; market growth, market share, technical problems, investment needs and shortage of capital, difficulties to finance expansion etc. What eased the complexity of issues was a near-single business situation. In modern times, the situation was almost the opposite in the foreign subsidiaries. Limited market growth, constantly high market shares, well-established, mature technology and service networks for installed machinery, periods of limited investment needs and often substantial capital reserves.

Until the late 1960s, the responsibility for all domestic activities rested with the parent company, and ultimately with the managing director and functional managers. All local activities were under the control of local management for most of the post WWII era, including that of setting economic targets. As long as the local planning was a concern for the market company manager, and the budget and targets were approved by the parent company, the configuration seems relatively consistent and few controversies are likely to have appeared from a structural point of view.

In 1968, the domestic operations of the parent company were divisionalized, creating an emerging profit center structure with a marked difference between legal and operating structures, and a need for decentralized profitability objectives. Over the 1970s, the product divisions grew in importance, and were posing demands for international authority. It is likely that significant informal coordinating activity was going on between the product divisions and local product managers during this time, as the product divisions were striving for influence without formal authority. The influence was hampered by the lack of uniformity of the local organization, i.e. the varying face of local counterpart and other factors.

The foreign subsidiaries in the shape of the post-1979 mixed market companies, had a broad set of activities with different characteristics and requirements. In 1982, corporate management used a set of four goals and performance measurements for the foreign



subsidiaries. These were return on operating capital (ROC), net profit after financial items, local cash flow and credit-back margin. The official policy of the parent company was that all were equally important. In practice, there was a focus in the subsidiaries on the profitability measurements - the bottom line. The parent company was well aware of this but had the ambition that the subsidiaries should learn to work with all four measurements. Cash flow was a measurement used in extremely high inflation countries, for example in South America, and credit-back was little used. Once a year, a rankinglist of all market companies was put together, based upon the four measurements, which was made available to all market companies.

There had earlier been a 'survival ROC'<sup>77</sup>. This was a calculation of the minimum profitability needed to pay interest, dividends and to save the equity from effects of inflation. It was found to be too sophisticated a measure and not understood in the subsidiaries. The survival ROC was pulled back, which in 1982 was stated to be a 'temporary' action. However, the survival ROC did not surface again and may have been an exponent of the high inflation economies of the 1970s.

The credit-back margin accredited the subsidiary with part of the gross margin in the Swedish product company, and was introduced in the early 1980s. The purpose was to encourage sales of low margin products, to lessen the motivation for transfer price debates as the profitability of the whole chain is rewarded, and to enhance a sense of cooperation, of 'corporate thinking'. Credit-back had varying consequences in different countries. A market company with volume but poor profitability would argue for their level of margin created upstream, whereas another company with high local margin and limited internal purchases would find the credit-back to be of little interest, leading one market company manager to refer to the credit-back as *"an excuse for poor performance in some market companies"*. If there was varying interest between market companies, there was also substantially different views on credit-back between corporate headquarters and market companies. Corporate managers, in 1982, expressed strong concern and interest in the well-being of the calculations whereas a view often voiced in the market companies was that credit-back had no control or governance value, partly because of it being based on tertiary reports rather late in appearance, and consequently was of no interest locally. Actually, very few in the market companies ever saw the figures. Implementation of credit-back also varied between the business groups. It was widely used in the Industry group, but not at all in Agri. In 1982,

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<sup>77</sup> With obvious imagery, it was pronounced 'survival rock' in the firm.

discussions were ongoing for construction of a similar measurement, but seemingly not resulting in practical work.

Economic objectives for product departments within foreign subsidiaries varied between companies, more explicitly so in 1982 than in 1987. The second-tier divisions in 1982 tended to use operative goals and performance measures for their local counterparts. They included no capital charge in their measurements, and were not concerned with the overall profitability of the mixed market company through which they operated. For example, Marine and Power formulated measurements in three dimensions: market share, gross margin and volume, but considered others as well. Market share seemed to be the most important, and falling market share development a signal for further investigation.

After 1986 and the business area reorganization, goals were formulated primarily for the business areas rather than for market companies, and matched against the demands for group performance. For the business areas three profit or profitability objectives were used. In terms of economic objectives, there was much simplified structure, focussing on overall profitability. In 1987, the total economic objectives for the group were broken down first by Business Area.

Goals for the business areas from Executive Group Management were expressed in three measurements:

- Return on capital, ROC. ( $\text{Operating result} + \text{calculated interest} / \text{Operating capital}$ )
- Operating earnings
- Return after financial income and expenses, official, RAFO.

ROC was differentiated between 12 to 40 per cent. (Note: due to the inclusion of calculated interest in the cost of goods sold, a zero operating earnings led to a ROC of 12 per cent.)

The explicit corporate policy in 1987 was that the business areas determined themselves what economic objectives they wanted on their international local operations, and in a sense the policy was a formalization of an informal influence that had been growing during the 1980s. Again, the business areas tended to use volume and market share targets etc.

The Agri business area demands on what by 1987 had become dedicated subsidiaries were expressed in a detailed fashion. Three profitability measurements were used: 1. ROC, 2. Operating earnings, 3. RAFO. Growth and volume targets were also set, as well as measurements of capital turnover.

Divisional managers within the Automation business area had a consolidated, "even global", responsibility for profit. However, this could not be measured to the bottom line. Transfer price fights were still not felt to be severe, and nor was the lack of measurability felt to be a problem. The country local managing director had full responsibility for local operations, and overall local profitability was the most important control measurement.

Whereas in 1982 a rather sophisticated set of four goals were employed - although in practice not equally weighted - for the mixed market companies, it was common in 1987 to state an overall profitability objective, plus program targets. Of the four objectives from 1983, the credit-back margin, designed to adjust the subsidiaries result with the profits made in the divisions, was totally absent. The cash flow target was not used in western Europe. The actual objectives varied with each market company, and depended on negotiations between the market company manager and the GMR at corporate headquarters. However, common measurements in 1987 were RAFO (Result After Financial matters, Official; i.e. an attempt to bring the corporate bottom line right into the budgeting procedure), plus various subgoals, for example inventory turnover and days of accounts receivable outstanding.

In 1988, an important and parallel change was made for the market companies and for the business areas, when financial items were excluded from measurement and goal formulation. The earlier preoccupation with bringing the corporate accounts through the RAFO was replaced with a marked separation of operating and financial items. From 1988, the corporate measurements of both business areas and market companies were formulated as Operating income and Operating capital. In a development that I will shortly return to, all financial matters had been centralized to the corporate office and as a consequence, divisions began being measured only on operating performance.

### *Differences in perceptions*

Despite the sophistication of corporate goal and performance measurements for market companies, or maybe because of it, the perception of the economic objectives was often much simpler and more straightforward in the market companies. There was some discrepancy between the formally stated corporate economic objectives for market companies and the informally conveyed priorities, as the market companies understood them. The strongest priority of the corporate management, as market companies perceived it, was the quest for bottom-line profitability. Market company comments both in 1982 and in 1987 pointed in the direction that the corporate office was concerned with local overall profitability. In general, the members of the Executive Group Management informally and in practice communicated a profitability focus to both business areas and mixed market companies. A manager with recent experience from outside Alfa-Laval commented:

*"..in Alfa Laval you see the RO3 [profit and loss statement] on every desk, wherever you go.."*

'Operating earnings and growth' was the representative perception of the demands of the corporate office as perceived by one market company manager in 1982. Overall, profitability, often in terms of bottom line, was cited as the target asked for by corporate management, both in 1982 and 1987.

The perception of corporate and market company levels seemed to become more in line with each other during the 1980s. The explicit policy at the corporate office in 1987 was a focus on profitability, measured as RAFO. The previously informally conveyed focus on profitability was made official policy, and thus formalized. The corporate office also formulated sub-goals especially for capital-efficiency items, e.g. outstanding credit and stocks turnover rate. The breakdown of all mixed market company objectives into local business areas was a concern for the business areas.

A point of some more subtlety; adding to the difference in perception between the Swedish parent company and market companies, was also the rapidity of change of measurements. Some measurements, like credit-back, changed several times in its life time, and the set of measurements used in 1982 was quite different from the one used in 1987. The profit-to-capital measurement had at various points in time been measured as 'survival ROC', ROC, RAFO, ROCE. Paradoxically, in these circumstances high activity from the corporate level increases the need for local interpretation and formulation of objectives. That is, quick changes in formulated objectives increase or maintain the need for local interpretation of the parent company's intentions.

Goals for the product companies and for the divisions within the Agri group were less formalized and more dependent on the respective group presidents. Alfa-Laval seemed to be moving towards more explicit and differentiated goal-setting, but still budget-based, rather personalized goals compared over time was the norm.

To sum up: over time, the economic objectives shifted from overall national subsidiary profitability, to a mid-term, early-1980s substantial complexity over to late-1980s objectives set entirely for cross-border units, where goals were formulated on an operations only basis.

### **A short note on transfer prices**

For most of the company's existence, only components were shipped. With the developments towards systems sales, components were joined by applications and resulted

in an interdependent internal structure. The piece serves to illustrate how product-, or business complexity easily translates into administrative complexity.

In 1982, conflicts between product divisions and subsidiaries regarding transfer prices varied significantly between the product divisions. With the extensive vertical integration of the firm transfer prices were a source of concern especially lower down in the subsidiaries. Hopes that the credit-back system should eliminate price discussions had not been fulfilled.

In 1987, transfer prices were still a source of concern and conflict for the market companies. The issue of transfer prices was tied to the information system and the measurability of profitability and performance at various levels. The corporate policy was one of cooperation between Business Areas and market companies. This policy made the transfer price issue one of internal distribution of margin. An attitude of cooperation was not always the case, however. From the market companies' point of view, there were significant differences between the business areas in handling the transfer price issue. To generalize, Thermal was "good", Marine & Power was quite good and Food engineering was poor in this respect. Poor mean there was cause of concern.

*"...the junior managers in the Business Areas don't see the market companies as their local representative. The thought has not penetrated the organization."*

*"...the business area concept and the partnership idea is not understood [by BAs]. They ship out products to the market companies on the December 31" to achieve their objectives"*

Transfer price practices varied between the product divisions. Due to the complex operating structure with in-house components and significant internal purchases, housed in an equally complex multi-layered organization structure of profit centers, the local systems people - notably Food Engineering departments - found transfer price discussions to be a regular part of the job. Food Engineering offered quotations on large orders, where the internally purchased items constituted a large part of the total cost. In some market segments, competition was intense, and:

*"...in a quotation situation, in a price war, you negotiate lower transfer prices back along the vertical chain.."*

To a large extent the stand-alone and over-the-counter business of Agri allowed for a different situation. To set transfer prices, Agri, in 1987, employed a simple system with a

fixed pricelist with discounts set once a year. The prices were based on standard cost plus a markup minus the discount for each country. There were no negotiations and books were open.

The sales between the related product divisions also demanded transfer pricing. This was over time based on cost, plus some markup. A significant change in policy was made in 1986, after which the, now incorporated business areas, were to determine prices through arms-length negotiations. In 1987, negotiations were ongoing to draw up commercial agreements for purchases and sales between the product divisions.

Conceptually, there are two sets of transfer prices in a company like Alfa-Laval. One is vertical, between parent company (or divisions) and foreign subsidiaries, the other is horizontal, i.e. between product divisions. Looking at the balance between practices for determining transfer prices between parent company (divisions) and foreign subsidiaries, vis-à-vis transfer prices between product divisions, there is a mirror image with some 20 years apart. Earlier, foreign subsidiaries purchased in the role of a client, with the parent company as supplier. Prices were determined through price lists, with or without negotiations. Prices between divisions were decidedly based on cost - departments as they were, within the same firm. Following the 1986 reforms, the policy was almost reversed. The global product divisions were in the process of negotiating commercial, arms-length pricing agreements, while the stated policy for the relationship between the product divisions and foreign subsidiaries was to be based on "cooperation and trust", and as partners in a common business interest.

### **Periodical reports**

The 1970 ERM contained a series of standardized periodical reports for economic information. This was an extensive package to be delivered by the foreign subsidiaries at specified intervals. The corporate controller staff (the KEU) was the recipient of the reports, where the information was compiled and delivered to corporate management.

The strains on the ERM as a result of the diversified activities of the group were amplified through the business area reorganization on several levels. The business area managements demanded attention to the specific needs of their business, and the consequent need for different economic and business information - for different management information systems. Food engineering had demanded a project-reporting module, which had been incorporated into the ERM. As Food designed and sold food processing systems with

delivery and construction times of a year or more, its reporting needs were obviously different to those "over-the-counter" business of Agri or even the component businesses of Separation or Thermal.

In a sense, despite the necessary standardization the ERM tried to be all things to all people, and succeeding in being so by way of complexity and volume. The result was that the business areas bypassed the established routines, although this was formally prohibited. Important information that bypassed the system included product line breakdowns and market information. This tendency to create separate information channels was also identified in 1982, but was no less apparent in 1987. On the contrary, it seemed the reorganization had strengthened the diversified interests.

The business area organization had resulted in a proliferation of reported forms from the MMCs. Operating results had previously been reported for the MMC as a whole, but was now calculated and reported also for the local business areas. As a result the number of forms transmitted from mixed market companies had multiplied. The British MMC transmitted 81 forms per month in 1987, where 41 forms per months had been transmitted in 1986. The workload in preparing the reports had, naturally, also increased, affecting the local controllers and, needless to say, their attitudes towards the implementation of the reorganization and their attitudes towards the management information systems.

In 1987, MMC attitudes regarding the content and amount of reporting were not favorable. Some comments:

*"...unbelievable..ridiculous..they can't possibly use the information at HQ.."*

*"...apportion financial income between BAs locally!?"*

*"...too much detail in the reports.."*

*"...we don't need any of the reports locally..."*

*"... developing the report involves lots of extra work..."*

*"...there is an 80/20 rule as to the usability of collected information through the ERM system. On top of that, the most important parts, the non-financial information, is not there."*

The magnitude and content of the procedures had been affected by the change in 1986. For the MMCs, it was a change more in magnitude than in content, resulting largely from reporting for four or five local business areas rather than for one market company. The largest difference may have been the increased reporting from MMCs to KEU. Most of this came from 'duplicating' forms by Business Areas. The personnel most affected by this development were the MMC controllers and their departments.

We have discussed whether the mixed market companies really had complied with the business area organization. The periodical reporting again brings up this issue. In preparing the reports from the MMCs, a significant cost distribution exercise was needed. Overhead costs and other indirect costs had to be distributed to the local BAs. Also, as a Business Area was defined as new and spares sales, including service, the local Spares and Service department had to be split up by BA. From the local controller's point of view, little had changed. He still had a number of new sales profit centers plus an after-sales department, but much more cost distribution and reporting work.

*"..we have six profit centers here, not business areas.."*

In conjunction with the new organization into business areas in 1986 a task force was organized to study the scope for reforming the reporting system – the new Economic Reports Manual Project - a task force with the objective of simplifying the reporting routines, which were felt to be burdensome. The goal was to have a new set of routines for the budget process by 1989 (i.e. it should be ready by the fall of 1988). The group was made up of the CFO, the Group Controller and representatives of several business areas.

The corporate performance reports were specified in the ERM (Economic Reports Manual). The ERM contained guidelines for the reporting and pre-specified datasheets.

Reports were of the following types:

#### Monthly reporting

1. The quickest reports were received at the KEU on the 8th day of the month, giving sales statistics for the previous month.

The sales statistics (R07A, containing orders received, net invoicing and backlog) arrived at KEU on the 8th of each month. After having been compiled in a raw form, it was sent out to MMC/BAs for comments and validation. Answer was received by the 12th. KL then had its report by the 14th of the month.

This first report (R07A) was a GROSP report (Group Sales Statistics and Profit Control). GROSP was a set of reports focusing on sales and gross margin by Business Area, also broken down by product groups. Spares and service sales were broken down by Business Area. Reports were of the types described below. There was a corresponding set of budget forms.

2. The 20th day of the month, an earnings statement was received. (R01, R03).

#### Tertiary reporting

Tertiary reports contained earnings statements and balance sheet. It arrived at KEU on the 20th day of the month. Part of this package was the GROSP reports R06A,F,G.

#### Annual report

The annual report complied largely with the tertiary reports. Additions were largely to conform with Swedish legal requirements.



The number of organizational units (companies) reporting periodically to the corporate accounting staff in the format described above, increased dramatically in especially the latter half, of the 1980s, from around one hundred to three hundred units. The number was in constant growth, why an exact figure begs the issue. In the early 1980s, the growth in number of reporting units was limited, growing with a few acquisitions - e.g. the Bran+Lubbe acquisition in 1981 brought around ten reporting companies - and with the incorporation of the parent company in 1983. In the late 1980s, the growth accelerated for several reasons. The split of market companies into, firstly, Agri and Industry and, then, a further split of Industry into Food and Industry was one source. The acquisitions policy from 1986 lead to a great number of acquisitions, of which some had subsidiaries that reported to corporate staff. The policy in the late 1980s was not to accept 'subcorporations', but to have all legal units report to the corporate office. Another source of the changes was companies formed by Alfa-Laval during this period of time. It is difficult to single out one major source of change, but combined, the result was a tremendous growth in the number of organizational units reporting to the corporate accounting staff.

In 1987, the Mixed Market Companies still sent in the reports to the corporate accounting staff, the KEU. Thus, the business areas received their reports indirectly. The reporting flows had not changed over time. When the reporting pattern diverged from the norm, it was within acquired units.

1982, the market companies as well as the product divisions voiced some complaints regarding the ERM. There were complaints that the volume of reporting exceeded the benefits, and that it was a control system rather than supporting decision making. Partly as a consequence, some complementary systems were being built up in the business groups, or divisions. The business areas had their own controllers in 1987. The business area controllers did not have the right to demand extra information from the market companies without the sanction of the group controller staff. To some extent, they did so anyway ("..Food and Agri are the worst.."). Non-financial information such as market plans, competitor information, customer segmentation etc., was not included in the economic reporting. This kind of information traveled directly from market company to business area, through both formal and informal channels.

The official, and dominant, flow of reports/information was when the group controller staff was the recipient and the business areas received the data indirectly from there. This was the practice of all remaining mixed market companies, which sent in their reports to the group staff, covering the local business areas as well as the entire company. The business

areas selling through the mixed market companies then received their periodical performance reports from the group staff. This was the case for Food engineering and Thermal as well as for Separation and Marine and Power. The Agri market companies also reported via the group staff. The official policy was not to accept reports from sub-corporations, which is why, for example, the ten or so separate units of the Bran+Lubbe company reported to corporate staff, from which the consolidated Bran+Lubbe report was sent to business area headquarters.

In 1987, Agri was a stand-alone business with dedicated subsidiaries. Nevertheless, the periodical reports from Agri market companies passed through the corporate staff. In certain cases subsidiaries also sent in direct information by mail to business area management. Reporting was felt to be slow. Tertiary results were delayed by four weeks until they reached business area headquarters, and sales statistics were available only by the middle of the month. It was felt that the ERM only partially adhered to the specific needs of the business area. For example, a more detailed account of stocks was asked for. The level of local external purchases was difficult to determine. In terms of the GROSP reports, Agri viewed itself as one single application, and thus was only divided into products.

An exception, with consolidation at the business area and indirect reports to the corporate office was the case for Automation in 1987. It is unclear what the general importance of these reporting patterns was beyond Automation. Periodical reporting to the group controller staff was done for the Automation business area as a whole. The subsidiaries reported periodically directly to business area management and not to Alvik, which was the case for the mixed market companies. Automation management felt that this was advantageous. Dedicated subsidiaries meant that there was very little distribution of costs to derive the profit figure, and the business area had full control over its costs. It was felt that 5 - 10 days were saved through direct reporting instead of going through the corporate staff.

The picture was not completely uniform and the reasons apparently varied between business areas. The reasons for the related businesses seemed to be based on the resource-sharing in the mixed market companies, as well as historical reasons. Historical reasons played a part for the global product division of Agri. The acquired, stand alone, Automation business area had kept reporting patterns established before the acquisition.

### *Measurability of performance*

The scope for formulating relevant goals and objectives depends on the measurability of performance for affected units and managers. One critical point for Alfa-Laval has been the measurability of international performance of product divisions and product managers, i.e. the consolidation of international business figures.

During the 1970s, a need was growing inside the product divisions for international consolidation of accounts. The organization of the foreign subsidiaries and their local accounting was not uniform at this point in time, and demands were growing for standardization, not only of the organization charts, but also for the accounting, which would enable international consolidated performance to be measured for the product divisions. This eventually led to the demands for uniform organization in the mixed market companies that were formulated in 1979.

Measurability of local performance was important for the control exercised by the business area over its local operations. The information needs of the business were not always in line with the needs of the corporate office as the business area needed a finer breakdown of costs and income. Often, it seemed that additional information was necessary to derive information for decision support purposes.

In the post 1986 revised ERM, the main unit for reporting purposes was the local business area. After distribution of local overhead costs as well as of spares and service, to the business areas, the resulting figures constituted of the ERM for the monthly reporting. A significant amount of work was required in order to take out local purchases etc. in the mixed market companies.

The ERM served a multitude of purposes. Reports were to provide information for local and group legal purposes, for group periodical control and for business area periodical control. The information was also to function as decision support. For legal purposes, the combined figure for the whole subsidiary was needed. This was easily accessible. What was not easily accessible was the breakdown of business area performance into its component businesses.

The MMC in Singapore and the Food Engineering reports provide an example of the above. The ERM provided information for legal purposes and for the full local business area. A breakdown into the three local departments under Food Engineering was not reported monthly. Instead, these figures were reported monthly under separate cover and directly to the Food Engineering controller. This is an example of an unauthorized demand; the business areas were not assumed to burden the local controllers with demands for extra information.

The monthly sales statistics reports provided a partial remedy for the problem. Through the use of GROSP reports, product line profitability for the business area was derived. In the GROSP reports, data for each business area was broken down by application. An application was market-determined: "market oriented and is determined by the market segmentation within the different Business Areas". The business areas had themselves determined what applications should be used for reporting purposes. Spares, repairs and service were listed separately. For example, Food engineering had 19 application codes, of which nine for spare parts and service, Thermal had 30 application codes, of which five were for after-sales. Data for the business area and applications were delivered from the mixed market companies every four months. On a yearly basis, the application data was then subdivided into input products. This included the various Alfa-Laval products sold under each application, as well as non-Alfa-Laval products sold.

As the Spares and Service (SAS) part of the business was profitable, and the sale of new units less so, the business areas had a strong interest in the control and consolidation of these operations. The core components also had a fairly long installed life time stretching over a decade in many cases, and from that perspective, it may have been logical to combine the responsibility for the two. Consolidation of the result was done ex-post through a cost distribution exercise, and incorporated into the standardized economic reporting system, while the control of the after-sales departments was more complex for the local business areas. As late as in 1987, the local product departments expressed a strong sense of frustration that this profitable market escaped them. Change came in 1990, when the local managers were also made responsible for after-sales.

The business areas were not in full control of the capital side of their country defined operations in the MMCs. Thus, there were limitations in the possibility scope for cross subsidizing between markets. Two trends in the 1980s affected this issue. Firstly, the split into finer legal parts of the mixed market companies meant greater control over the local balance sheet and what at least in theory amounted to a greater scope for cross subsidizing. On the other hand a second trend towards corporate centralization of finance and all economic transaction within the group may have worked the opposite way.

Agri product managers had no full global responsibility for performance within their respective product areas. Full measurability was only attained at home. Internationally, gross margin and return on inventory was measured.

## Remuneration

Swedish managerial salaries may have been rising, but during the 1970s and 1980s were at a moderate level in an international perspective. This circumstance was often referred to as a reason for the meager representation of non-Swedish managers in the corporate office. Even if the salaries as such were not on the 'meager' level, it indicated a certain social commitment to the national business environment.

Within the market companies, all personnel policy, including recruitment and lay-offs, salary and bonus, had always been the responsibility of local management. This included recruitment of local product managers. Remuneration to individual country managers was traditionally a combination of salary and performance related bonus. This was also the case over the 1980s. In 1982, for mixed market company managers, the bonus was determined by the corporate VL, in a rather subjective manner. One mixed market company manager referred to the bonus as

*"a Christmas present in May".*

The basis for the bonus was the performance of the market company as a whole. Within the market company, the local managing director was responsible for compensation schemes. The level of formality, the basis for determining the bonus, and the relative importance of it, varied between the market companies. The level of formality varied from completely subjective, to being based on a formal set of weighed parameters, e.g. including market share development, operating earnings and a proportion for "personal performance". Not surprisingly, the US market company had a more formal compensation system than the European. For example, the salaries and bonus for a few key officers of the US company was set by a Compensation Committee, which consisted of Harry Faulkner and three American board members. The group of local managers affected by the boards' compensation committee had earlier been much larger; most of the firms' management had been under their jurisdiction. The involvement of the local board led to frictions with the foreign subsidiary management and in the early 1980s, the managing director of the market company assumed the responsibility for salaries and bonus for the majority of managers. The basis for bonus in the US market company was stipulated in a set of weighted parameters. Across the market companies, about 25 per cent of the salary was a normal maximum for the bonus, but could be up to 50 per cent.

In 1987, there was a series of bonus systems, in which financial remuneration for managers at various organizational levels varied with some performance measurement. The heads of business areas, the heads of mixed and non-mixed market companies and product managers in business areas and mixed market companies all had a potential bonus to be received. Attempts were made to separate the individual's performance from that of the company through subjective components in the bonus construction.

General construction of bonuses in 1987.

Bonus for:	Decided by:	Construction:
BA-mgr	KL	Earnings against budget
MMC-mgr	KL/GMR	MMC official earnings
BA Prod.mgr	BA mgr	consolidated earnings
MMC Prod.mgr	MMC mgr	local earnings

The above is an idealized and simplified picture of the bonus system. One could argue that the bonus system should ideally have followed the value-adding chain of the firm. In Alfa-Laval this chain was broken, as the business area did not determine the bonus for its country managers within the remaining MMCs in 1987. Thus, a conceptual inconsistency in the overall system that remained into the business area organization, was the business areas' formal lack of control over the bonus of its local managers in the mixed market companies, and consequently an asymmetry in the treatment of the stand alone product divisions with dedicated market companies and the related divisions in the mixed market company structure. This inconsistency, or asymmetry, however clear from a conceptual point of view, did not in practice seem to cause conflicts between business areas and MMCs.

The growing number of global product divisions with dedicated market companies were, in line with the formal structure, solely responsible for the principles of compensation, throughout the international units.

For example, bonuses for subsidiary managers in Agri were essentially constructed with the agreed targets as a base. Bonuses were determined by Agri management and maximized to 20 per cent of salary. The bonus calculation was based on three components:

- local profitability
- a program target (for example market share targets)
- a subjective component (for example membership in management committees)

Over time, the country management had lost its prerogative in remuneration policies. Towards the end of the 1980s, it remained in the MMCs still in operation, but had quickly

moved towards a cross-border decision within the Business Areas, possibly with a greater formalization of bonus constructions.

### **Transmitting and processing the information**

The effect of new administrative technology during the period studied should not be underestimated. The technological basis for efficiency and effectiveness of office work has fundamentally changed and the scope for quickly transferring information over vast distances provides a background for these developments in international management. We should not neglect the mundane things. It is easy to focus on the arrival of spectacular international telecommunications networks. Remember that the widespread use of computers is a phenomenon of the 1980s with the introduction of the IBM personal computer in 1982 as a key step. The 1970s meant electromechanical typewriters and Tippex, carbon paper and stencils, impulse controlled telephones, telex, tube post - not E-mail etc. In the Tumba headquarters in the mid 1970s, there were two photocopying machines for general use plus one for the exclusive use of executive management.

The rapid development of telecommunications and information processing technology is reflected in the many changes in Alfa-Laval practices in transmitting and processing economic information. From an early adoption of a central mainframe configuration coupled with non-standard international practices the company moved toward a decentralization of data processing capabilities and an international standardization of hardware and software.

Like many other activities the information processing capability was organized by country throughout the 1970s. The parent company and the foreign subsidiaries had varying solutions to the data processing needs and the result was for example a relatively unstandardized hardware representation - IBM, UNIVAC and Honeywell units could be found.

The parent company of Alfa-Laval procured a central IBM mainframe for data processing purposes as early as 1966. In 1980, the corporate EDP department served almost all activities in Sweden and employed about 100, of which 40 worked with systems development, 10 were technicians and 50 worked in operations including data entry. The hardware was an IBM 370/158 mainframe, located in Tumba. The Tumba facilities served not only the corporate headquarters and divisions located in Tumba, but also the Lund divisions.

Three decisions were taken in 1980, reflecting both the reinforced centralization perspective in these matters at the time and the beginning of an international standardization:

1. to start the construction of a new building in Tumba for the EDP department with an operations room sized to house four IBM 370/158s. The building was moved into in 1981.
2. to start development of a general ledger system for the parent company, whose activities at that point in time were all Swedish.
3. to start development of a new order processing/distribution system on IBM S/34 for some market companies.

The development in the first half of the 1980s broke the centralization policy indicated in the decisions above.

The two decisions regarding the EDP building and all-Swedish software were in line with the existing central configuration of information processing. Consultants were hired in 1981. However, the development of an all-Swedish system for all of the diverse operations of Agri, Separation, Marine and Power, Food and Dairy and Thermal ran into difficulties and exceeded estimated development costs. The activities and demands of the divisions were too diverse and the common systems a futile effort.

Concurrently, some foreign subsidiaries had begun meetings that led to a standardization around IBM S/34 machines. Up until 1980/ 81 the local systems exhibited great diversity both in hardware and software. At the same time, the market company S/34 systems were successfully implemented and an S/38 updated system became Alfa-Laval policy in 1983. The new decentralized configuration was attractive to the divisions, and from 1982 to 1985 the divisions in Sweden built their own decentralized EDP departments. The Swedish divisions were given the responsibility to decide for themselves what kind of systems they wanted. In this development, the incorporation of the product divisions in 1982/ 83 no doubt played a role as the product divisions were given responsibility for not only income and costs, but also for capital employed. The product divisions wanted more control, and were given the right to develop their own systems. The development of the systems was essentially bottom-up since the corporate effort to develop a centralized mainframe/standardized software system had failed in the early 1980s. It may be noted that the systems development initiative was decentralized to the product divisions and not to the business groups.

Alfa-Laval was in the early 1980s operating with national, local EDP departments, divisional EDP departments as well as a central parent company EDP department and mainframe in Tumba. As a consequence of the increasingly decentralized information



processing system the central mainframe unit became rather a high cost unit when it came to the point of a replacement decision which would mean investments in a new mainframe. In 1984, a comparative study of mainframe operations was conducted involving Fläkt, Electrolux, Philips and Atlas Copco. Not surprisingly, the Alfa-Laval central unit was found to have low capacity utilization which was attributed to the ongoing decentralization of EDP to the product divisions. Eventually - in 1985 - a decision was taken not to invest in a new mainframe but to close the central unit and to operate through a remote service bureau. To externalize the activity was a decision of some sensitivity for several reasons, not only because of closing the relatively recently built EDP building, but also because Harry Faulkner at the time was a member of the board of directors of Swedish IBM. Nevertheless, the Stockholm-based CRS (Computerbased Resource Services) data center took over Alfa-Laval's central data processing needs. This also meant that the technicians and operators left the company, while the systems development people remained.

The CRS deal was important for another reason. CSR was the Swedish node for the international data-communications network Infonet. Thus CRS provided a structure for an Alfa-Laval communications network christened ALNET, for which applications were later to be found.

The decentralization trend continued - also manifested in the business area reorganization of 1986 - leading to pressures for rationalization of the central parent company systems development unit. Instead of marginal changes, a more radical solution was sought in mid-1987, the systems development unit Alfa-Laval Data was taken over by a joint venture, ALPRO Info Services AB, formed by Alfa-Laval AB (49 per cent) and Programator (51 per cent). The personnel remained with a managing director from Programator. Programator had formed similar agreements with other industrial manufacturing firms including Uddeholm, AGA, Bahco, Boliden, Frigoscandia and Ericsson divisions.

The decentralization of the initiative to the product divisions, reinforced as a result of the business area reform led, to a differentiation of systems employed that was notable in the foreign subsidiaries in 1987. For example for order handling systems, there were by then separate systems for Food Engineering, Marine and Power and Thermal. The systems were incompatible with each other and with the corporate accounting system, much to the frustration of local controllers who cited several examples of the sometimes confusing results. For example, the same invoices entered in the Food Engineering and corporate ERM system generated different end-results.

Essentially, the central systems around 1990 remained for Group consolidation, i.e. for the needs of group staffs, where the mainframe served as an international mailbox for the

reporting companies. From the sizeable information systems operations in the early 1980s, the in house capacity was reduced first through the CRS mainframe operations, then through the ALPRO joint venture and minority holding<sup>78</sup>. The corporate administrative staff in 1990 amounted to three.

Up until the mid-1980s, reports were sent in to the corporate office through several means of communication. There was a common computer-based system introduced in 1982 called ALERM, but it had to be complemented by mail, telex or later by telefax messages. ALERM also validated the incoming information at the central computer during transmission which led to long transmission times and very expensive telecommunications bills. Monthly and tertiary accounts were calculated using a system from the early 1970s with the illustrious name MEK-B; "Mekaniska Bokslutet" in Swedish which roughly translates as The Mechanical Accounts. These systems were not designed for the volumes of data that were beginning to be generated and turned into a cumbersome and complex way of capturing and consolidating ERM reports.

In 1985, work was started at Alfa-Laval Data, on the request of the Corporate Controller, for a modern computer-based system for transmitting and processing economic information. Two years later, in mid-1987, the means of transmitting the data was in a period of transition from mail to information network. The new system was called MISAL (Management Information System Alfa-Laval). It was based on a standardized IBM PC and software environment in the subsidiaries and validation was performed before transmission to the central information base. Transmission was done by modem on fixed lines or Infonet. Thus, in the late 1980s, reporting units were operating in a standardized software and hardware environment and periodical reports sent in via telecommunications to Sweden.

The earlier systems had been designed for the needs of the central staffs. MISAL permitted information diffusion on a more practical as well a decentralized basis. From the mainframe, the information could be lifted to a PC environment at the corporate staff for processing. The business areas could lift information from the database, information that was marked for their respective access. This would significantly reduce the time from transmission to access to the data for the business areas. In the case of Food Engineering, which by then had its own business units, the business units could access its information.

In theory, MISAL could be developed into a network virtual database. Multiple points of storage of data could be linked and tapped when needed, by the user with the right access.

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<sup>78</sup> Actually, later in 1991 the trend continued when Programator purchased the outstanding 49 per cent of the joint venture.

For example, data would remain stored at the Mixed Market Company, with business areas having access. Before the conception of MISAL, the information flows were basically pooled and sequential in nature<sup>79</sup>. All economic and financial information from the market companies passed through central staff before being shared with other receiving units, notably the business areas. MISAL makes reciprocal flows possible. However, as MISAL was in this sense only operative to a very limited extent during the period of study, only a few effects of its potential in these respect could be observed.

A prerequisite for the earlier mentioned logistics companies for Nordic separator spare parts and Agri spares was a well-functioning telecommunications network. Sometimes chance had an influence: mainframe overcapacity in Glinde (Hamburg), Germany in the late 1980s added to Glinde being a preferred node for an Agri Eurowarehouse. The separator spare parts warehouse in Tumba, serving Sweden, Denmark, Norway and Finland from 1987 onwards, was developed within the ALNET concept, connecting local terminals in to the CRS mainframe which permitted permanent access to the central computer and an overnight service degree of 95-96 per cent compared to the earlier local 80-85 per cent, apart from savings in tied-up capital. The established ALNET/ Infonet communications network permitted relatively simple expansion of the system to continental Europe. The first to be connected were Germany, Holland, Belgium, France and the UK.

Overall, the 1980s decade marks a radical change in how periodical and routine information was transferred and processed. From a central parent company mainframe and support staff coupled with unstandardized local practices in 1980, the changes led to internationally standardized hardware and software on a largely decentralized basis and where the business areas were a dominant actor. An international telecommunications network was established and some applications developed.

### **Treasury and finance**

Early on, the foreign subsidiaries' economic and financial relationship with the parent company was quite simple. In essence, payments of goods delivered and payments of dividends on share capital. This was the basis for interaction even throughout the 1970s. The parent company finance function of a handful of members, under the Finance and Administration Director, managed issues typically associated with the parent company such

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<sup>79</sup> This notion comes from Thompson's (1967) discussion of information flows.

as dividends and shareholdings in subsidiaries. The foreign subsidiaries were responsible for local finance, treasury and cash management. They managed their own currency exposure and invoiced separately, in what may be called a 'bilateral' mode. Local responsibilities included bank relationships and the resulting relationship to the parent company were akin to those of a supplier and an owner demanding return on investment. For example, even as late as the early 1980s, the US foreign subsidiary was responsible for finance and treasury for both local Industry Group and Agri Group activities. It may be noted that the product divisions never had such a broad set of responsibilities in this area.

A quick series of changes over the mid-1980s, roughly from 1983 to 1988, was to completely transform this decentralized mode of operating into a very modern system. The corporate office via the CFO, the finance staff and what was later to become the Finance business area all gained control over virtually all the activities associated with finance and treasury. A general outline of the developments will be given here.

In the early 1980s, the corporate finance function was developed and several institutional forms were found for various aspects of treasury and finance. In 1983 Alfa-Laval Credit was formed. It provided leasing for customers as a means of financing products bought from the company. Also in 1983, Alfa-Laval International was formed; a clearing center for all internal invoices. From this time, all selling units would invoice Alfa-Laval International, which then invoiced the purchasing company in its local currency. This led to fewer transactions, a centralized internal cash flow and also a central currency exposure. By 1984, the Alfa-Laval Bank provided cash management for the Swedish units. After some years of implementation, treasury and finance was ultimately centralized to the corporate level. After finance was centralized, and as of 1988, the controls and measurements of Business Areas and Market Companies (MCs and MMCs) became symmetrical. None were measured in terms of financial performance, both were measured on Operating income and Operating capital.

In conjunction with the 1986 changes, an effort to free up funds from the balance sheet called the Billion Crown Challenge was launched. The target was to uncover a billion Swedish kronor. The Billion Crown Challenge was an umbrella 'campaign slogan' for a number of task forces and projects, and partly triggered by the corporate acquisition policy of 1986 and related financial policies. The object was to finance the acquisitions without increasing the debt burden or dilute the shares. Thus, the route to acquisitions was through working with the balance sheet. The chief architect behind the BCC was the corporate Chief Financial Officer, Lars Trane. Undoubtedly a success, the campaign ultimately ended up with uncovering reserves in the order of two billion SEKnom.

Some of the projects under the BCC:

- Inventory project. The project was headed by the chief of the corporate staff Administrative Development. The work included hiring outside expertise from a consultant firm, and a conference followed by a competition between the market companies.
- Focus on Accounts Receivables - 20-88. A project with the objective of freeing up funds from the balance sheet through making Alfa Laval more efficient in handling accounts receivable. The task force was made up of the CFO, the head of BA Finance, the Group Controller and Group Staff Personnel. A major part of the work was to start a competition between market companies for the greatest reduction in accounts receivables.
- Investments project. The Executive Group management was reviewing all major investments.
- Low yielding assets project. Not so much a task force but a focus on activating mainly the real estate holdings within the group.

## Patterns of administrative systems development

Like the development of the organization structure, the administrative systems displayed a significant amount of change over the period. Our overview of the development of the administrative means of coordination will be concluded by a summary and an identification of major change patterns.

Also in the administrative systems, a great number of changes and adjustments form patterns that generally amount to an increase in the administrative control over international operations. At first, this control was centralized to the parent company, but from the early 1980s it was increasingly decentralized to the then sub-divisions - later the global business areas.

The yearly budgeting process saw a greater involvement of the product divisions in the international units, up to the point where the mixed market companies' budgets were essentially made by business area and then 'pasted' together and summarized. All through the period study, economic objectives were set for several hierarchical levels, but varied significantly in definition, both in basis and complexity. The level of accord in perception of which measurements were of importance also varied, with the greatest confusion possibly in the early 1980s. An extensive reporting package was the norm, increasing in terms of number of reporting units over the 1980s, and in volume of reports by MMC significantly with the business area reorganization in 1986.

Some change patterns are worth highlighting. Firstly, there was an *international standardization of management information systems* in the 1970s. Again the initial focus was on the parent company and the foreign subsidiary levels with a build-up of central economic data processing capacity in Tumba. The GROSP quick reports were added in 1974.

The early 1980s was a period characterized by *handling business complexity by way of administrative complexity*. The sophisticated goal and performance measures, the incorporation

of a project report module in the ERM, and the multi-layered information systems capacity are examples of this.

Over roughly a five-year period in the middle of the 1980s, there was a *centralization of treasury and finance*. It transformed a nationally oriented, decentralized system into a modern cross-border system. Actually over the mid-1980s and accelerating, a pattern

emerges of simply *modernizing the administration*. The changes included financial management centralization, the operating performance measurements 1988 as divorced from financial performance, Infonet transfer of periodical information, the new MISAL manual and a successively fine meshing of information flows.

## Chapter 8

### ALFA-LAVAL

### CROSS-BORDER INTEGRATION PATTERNS

*Nationally-, and cross-border-oriented structural configurations, respectively; change patterns in the transformation process; changing roles*

The aim of this chapter is to synthesize a comprehensive view of the period of change leading Alfa-Laval from nationally oriented international management to cross-border integration. The previous four chapters were generated from different perspectives based on the analytical division into social structures and systems, business-, technology and operations, organizational structures and administrative systems respectively. The four partial descriptions will here be brought together.

Firstly in this chapter, the structural effects of the cross-border integration process in Alfa-Laval will be in focus in the form of a comparative study of the findings of the transformation process 'point to point', i.e. comparing nationally oriented international management in around 1970 to the cross-border orientation of the late 1980s. The aim is to assess the structural effects of the change period for the international management of the firm.

Secondly, a comprehensive view of changes and change patterns will be developed, building on the four partial images of the previous chapters.

Thirdly, the changed roles for a set of organizational actors will be in focus: functions, foreign subsidiary (and the foreign subsidiary manager), product division and finally parent

company. This third part of the chapter builds on the previous and is thus on a different analytical level. It is in a sense a 90 degree reading of the text, where roles are seen as building upon the various tracks of organized life covered earlier.

### **Nationally-, and cross-border oriented international management, respectively**

This first section details the cross sectional characteristics of the international management of Alfa-Laval in two points in time: around 1970 and in the very late 1980s. In so doing we will find one structurally aligned international management where virtually all aspects were nationally responsive, and one where practically all aspects were cross-border-based.

#### *Nationally responsive international management in Alfa-Laval around 1970*

Around 1970, Alfa-Laval was still basically a multi-local firm. Up until the late 1960s virtually all international aspects of the firm were organized and managed with an underlying observable principle, but not necessarily an espoused logic, of national responsiveness.

In 1970, the company had 15 246 employees, of which 5549 (36.4 per cent) in Sweden. Its total sales amounted to 1533 MSEKnom. Activities in Sweden represented 16 per cent of sales. The company's main business was component sales coupled with an increasing proportion of systems. Of the total sales, 28 per cent went to milk farmers (milking machines and consumables) and 17.4 per cent to dairies (separators, plate heat exchangers and support equipment; increasingly systems designed including some integrated systems for solving distinct problems). Industrial uses now accounted for 48 per cent (mainly component sales of separators and plate heat exchangers). The profitability was slight due to expansion of facilities and problems in a couple of the foreign subsidiaries, notably Bergedorfer Eisenwerk in Germany. The firm was not yet in the habit of publishing profit-to-capital ratios.

The Swedish parent company - which was equal to operations in Sweden and 'exports' to foreign subsidiaries - exhibited some signs of a change. In 1970, Jakob Wallenberg resigned from the board of directors of the family-controlled firm after forty years as a board member, of which the final ten years as chairman. Alfa-Laval AB, the parent company, had a managing director in Hans Stahle who had ten years in the executive position despite the



fact that he was only forty-six. The parent company management had spent the last decade restructuring the domestic activities towards a focus on the traditional core technologies and towards internal development of production systems centered around separators and plate heat exchangers, as well as systems and products for the milk farmer centered around the milking machine. Unrelated activities had been sold or closed down. In 1969, the parent company's substantial activities in car body manufacturing were sold to Volvo. The growing nerve center of the parent company was the Tumba premises, with parent company, central staffs, agriculture and separator facilities and marine applications; offices, design departments, factories and warehouses as well as the showcase farm Hamra Gård.

In the international field the foreign subsidiaries played their traditional role both as centers of Alfa-Laval investments in the country and as operating units with a broad set of functions and activities. The larger and more important subsidiaries - e.g. in the US, West Germany, Italy, Great Britain and France - were essentially 'complete' firms with all activities associated with an autonomous company and with the foreign subsidiary manager as general manager.

All foreign subsidiary managers reported directly to the parent company managing director as they always had.

The larger subsidiaries had production and assembly of a range of products, product development departments, warehouses which also housed locally purchased items and service and repair shops. These subsidiaries had their own production facilities where local production was overlapping in range and to varying extent reflected local needs. A range of lower value-added products - notably cooling tanks - associated with the traditional customer groups were manufactured locally. Marketing and sales were a local concern. Despite the introduction of the corporate name Alfa-Laval in 1963 there were several company- and brand names in use internationally.

The possibility on the part of the parent company to exercise administrative control within the foreign subsidiaries was still limited. The operations were to a large extent organized and administered locally and consequently with varying administrative routines for the local accounts. Finance and treasury including bank relationships was a local concern, as was personnel matters beyond the point of the subsidiary manager. Some local boards of directors were quite strong and independent - notably the board of the US subsidiary Lavalco.

Socially there was a network of general managers - parent company and of national foreign subsidiaries - with long periods in office and a joint responsibility for the future of

what in many respects was a federation of combined firms<sup>80</sup>. For local employees there was a natural, and quite significant, career opportunity in the local company, but not obviously beyond. Several of the foreign subsidiaries were natural parts of the host environments, and probably difficult to distinguish from any other company of the country in question. The German - in the 1960s West German - subsidiary was still located in the Bergedorfer Eisenwerk, late 19th century, site in Hamburg. Likewise the American subsidiary, the De Laval Co., still manufactured separators upstate New York in Poughkeepsie, where it had been located since 1893. Each of these companies posed a significant figure in its business environment. With the geographical distance to Sweden, a largely locally recruited board of directors and as a respected supplier to the US Navy, Laval was possibly more American than Swedish.

Table. 8.1 Cross sectional comparison of international management in Alfa-Laval around 1970 and in the late 1980s.

	Around 1970	Late 1980s
<i>Social systems</i>		
Dominating owner	Wallenberg	Wallenberg/Lundberg
Chairman of the board	Jakob Wallenberg (until 1970)	Hans Stahle (until 1989)
Executive management	Hans Stahle, MD (Harry Faulkner's deputy from 1971)	Harry Faulkner, CEO Lars Halldén, COO Lars Trane, CFO
For subs contact in pc	Managing director, Or deputy from 1971	Most international units, BA, For remaining subs: GMR
<i>Business-, technology, and operations</i>		
Technology	Component Systemss	Components Systems Related tech.
Business development	Related constrained	Related linked

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<sup>80</sup> See Bartlett (1986).

Manufacturing	National factories, General, Duplication	Integrated, Specialized Network
Logistics	National warehouses, exports/ imports	'Eurowarehouses' IT network, Integrated shipping Limited local storage
Marketing	National	Integrated by BA
<i>Organization</i>		
Form	Mother-daughter	Global product divisions
Local operating structure	National subsidiary	Specialized, functional units
Local ownership structure	National subsidiary	National holding company
<i>Administrative systems</i>		
Administrative framework	ERM (introduced in 1970)	MISAL, KL instructions
Reporting unit	National subsidiary	Functional unit
Budget process	By national subsidiary	Through BAs, 'pasted' by country
Economic objectives	By national subsidiary, Including financial items	By BA, Operating results only
Finance/treasury	National	Corporate/ integrated

*Cross-border integrated international management in Alfa-Laval in the late 1980s*

International management of Alfa-Laval in the late 1980s, was quite different from the nationally oriented management of around the 1970s. Cross-border considerations were pervasive in virtually all aspects of international management.

The company in 1988 had 12401 MSEK in sales of which 11 049 (89 per cent) in non-domestic markets. It had 17 156 employees of which 5 114 (30 per cent) in Sweden. Profitability was excellent, with a ROCE of 19 per cent. The company sold components,

food production systems and was engaged in a series of related technologies increasingly distant from the milk agrarian past of the firm. Several new business areas had been built up, and were being built up over the last few years, including fast food equipment and diverse interests in flow equipment. Most of these ventures were expanded through internationally dispersed acquisitions.

The parent company board of directors was composed of members of the two dominant owners as well as members elected for their personal qualifications or external networks rather than for their affiliation with any particular owner group. Chairman Hans Stahle died in late 1989, having served in leading positions since 1960.

Parent company management, or Group Management in the official language of the firm, was distinct from management and the operations of the global product divisions - Business areas - that formed the main operating level. Group management was a corporate management level, distinct from operations. The small group headquarters with staffs was located separately from operating units, in a lakeside setting in Alvik, north-west of Stockholm. The core group of corporate managers was dedicated to the group level; the CEO, COO, CFO and the information director, with the addition of a couple of business area managers. Corporate staffs had been reduced both in scope and headcount. The technical staff finally disappeared in 1989. That same year, Harry Faulkner left the firm after having had leading positions since 1971. He was replaced by the externally recruited, but "Wallenberg" professional manager, Lars Kylberg.

The eight operative global product divisions were responsible for business development in their respective domains; for production, research and development, marketing sales, service. For many divisions the operative interface with other division was minimal and, save for a couple of central functions - notably finance - they operated as independent companies with international scope. Production of core components was now organized with specialized factories located in the different countries. Research and development was coordinated. Logistics companies had been formed for organizing the physical flows from the specialized factories to the deliveries and ultimately the customers, and where central 'Euro' warehouses were the key nodes. Marketing of components was a local concern of divisional marketing companies, while the sales of systems often required the participation of systems designers from several countries. The Alfa-Laval name and logotype was used throughout the firm, but complemented by some strong local brands and the inclusion of recently acquired brands. Service of components and installed systems was in the process of turning towards a regional rather than national configuration.

Organizationally, there was a division between the legal and operating structure in that the global product divisions operated the factories, market companies etc., but ownership was held through national holding companies owned by the parent company. A series of corporate level companies with international scope were responsible for the common overhead activities of the firm; real estate companies, finance companies.

The administrative coordination of the international operations was achieved through an extensive management information system including a yearly budget process in the fall and extensive reporting duties from around 300 units. Formal economic goals were set for the units, although the informal coordination, not least through COO Lars Halldén and the 'personal' agreements made between him and the various managers should be emphasized. The means of communicating economic data was through an out-sourced, but dedicated international telecom network and processing the data was by out-sourced, central computer service, with the important addition of decentralized information technology. Treasury and finance were centralized to the group management, including international netting and clearing and an internal bank. From 1988 onwards, no operative units were held responsible for financial results. The corporate office had extensive fine-meshed economic information available, and controlled cash and finances throughout the international firm.

There was no strong counterpart to group management on the national level. Instead group management interfaced centrally with the business area managers through a group nicknamed the 'quasi-board'. There was little career opportunity within the local market companies and the divisional management exerted great influence in the appointment of market company managers. Concerted efforts were made to build socialization and career opportunities on an international and divisional level, partly through decentralized corporate culture projects.

### *Observations*

Over a twenty-year period, most aspects of the international management of Alfa-Laval had fundamentally changed. The historical practice of national foreign subsidiaries as the fundament of international management changed into operative cross-border divisions, where the national borderlines were relevant for a few observed practices but were not the all-pervasive criteria they had been.

For the most part of its existence, the firm has been an industrial manufacturing company of mechanical products, sold worldwide on a component basis through wholly owned national foreign subsidiaries. The food and dairy systems brought some elements of centralization to the parent company, but generally there was a continued reliance on the foreign subsidiaries for local business development. The later period of radical change resulted in a decentralization of strategic initiative to the formed product divisions. The combined effect of both a break-up of the national foreign subsidiaries along product division lines and the expansion through acquisitions of the product divisions has radically changed the international management structure. It was not merely a slight adjustment of practices, the effect was a transformation of the international management of the firm.

The change towards cross-border patterns of activities and organization confronted the managers with a set of complex and interwoven issues that were to be resolved under conditions of uncertainty. The evolving new conditions had to be perceived, recognized, shared and acted upon in an organizational framework that was itself soon threatened by the development as it was based on the nation state as a focal environmental absolute. Given the long time-span of country-specific modes of operation, the national structure of the firm was deeply rooted in the minds, in the organization structure and in operations. It is unlikely that the managers of the firm had previous experience on which they could build, and the development was a severe test of the innovative capability of the managers<sup>81</sup>. A basic challenge for management over a period of change is to maintain a viable coordination of the firm's international activities, while a long-term fundament of the firm's operating and management structure - the nationally defined foreign subsidiaries - are under pressure for change.

### **Change patterns in the transformation process**

This second section of the chapter brings the earlier four partial observations concerning the change patterns together into a comprehensive description of the period leading from

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<sup>81</sup> The difficulty inherent in the change is supported by findings reporting several failures of attempted cross-border integration (Doz and Prahalad 1987). For example, the failed attempt of the Brown Boveri Corporation (Prahalad and Doz 1981) undoubtedly contributed to the poor performance of the company which indirectly was a factor behind the merger of Swedish ASEA and Swiss BBC and the ensuing creation of ABB. Perhaps has the merger of the two companies also results in a merger across-borderlines (Taylor 1991).

the pervasive multi-national orientation, still identifiable around 1970 to the relatively unambiguous cross-border orientation of the late 1980s.

The developments of *social structure and -relationships* present an intriguing picture that initially may seem at odds with the developments identified above, in that the continuity and seeming lack of change is overwhelming. Alfa-Laval was a company peopled by managers who devoted most of their working lives to the firm. It exhibits the traits of a family firm, with a strong social network, internal promotion and devotion to the firm coupled with patience and transfer if an individual has problems rather than firing them. These characteristics were strongest in the early years of the period studied, but remained, if weakened, over the period. There were examples, statements and indication that the normative relationships with the firm was, at least partly replaced by calculative relationships.

Despite the superficially and structurally dramatic organization changes, especially in 1979 and in 1986, the individuals occupying the renamed and rearranged parent company management positions remained the same. Hans Stahle, Harry Faulkner and Lars Halldén occupied leading executive positions in the parent company throughout most of the twenty years of transformation, with the addition of a few people, for example Lennart Berglind of Agri and Lars Trane as financial manager. It is difficult to see corporate management changes as a prime driver for change. If there is one key appointment of a new manager to start the change, as been proposed by other researchers to be a requisite for change towards international integration<sup>82</sup>, it would be the appointment of Harry Faulkner as managing director and a new management team in 1980. However, there is no unambiguous interpretation as Harry Faulkner was no newcomer to the firm, nor were the other members of the new management team. But despite their histories, much of the substantial change towards a cross-border orientation of the firm began or was accelerated from 1980 and on, with the separator plant move to Kyoto in 1980 as a strong opening statement. The speed of change is probably affected by the relative constancy of the corporate management. With the long careers the involvement is much more than calculative and friends and personal networks are to be found in the firm. The direction of change may have been different with a change in management. The managers' worldview is formed through the years with the firm and it must be difficult to envisage a radical break with the past.

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<sup>82</sup> Prahalad and Doz (1987)

From a different angle, however, there are interesting parallels to the developments identified earlier. Around 1970, the firm was still *polycentric* in orientation - a largely Swedish parent company, complemented by a limited number of quite big national companies with strong local connection and long histories in the respective countries. I hesitate to call them host countries as they for the local employees were more home than host. These big firms offered substantial career opportunities for aspiring, locally recruited, individuals. However, the 1970s and early 1980s developments may well be seen as an *ethnocentric backlash*. With the growth of the product divisions, these new units, all located in Sweden, were almost invariably staffed by Swedes. With the pendulum swinging in the matrix years of the early 1980s, from national foreign subsidiaries to the product divisions, more and more decisions came in the hands of national Swedes. Furthermore, a substantial number of Swedes staffed the foreign subsidiary managerial ranks. From the mid-1980s, a new pattern again emerges. With the relatively autonomous business areas free to pursue their interests, they began to organize themselves. In several cases international management committees were formed, for example the 'Agri board'. Managerial constellations that spoke English, met in various countries and were composed of individuals with varying national backgrounds. Somewhat cautiously I would call this a *partial or decentralized geocentrism*.

During the 1970s, the **business, technology and operations** developments followed two major lines: *core component systems* development and, with a term borrowed from Hans Stahle, the value-added strategy. The major focus of product and business development was the continued focus on systems based upon in-house core components. The activities included a continued related constrained diversification, and internal development rather than acquisitions. This development patterns can be traced as a main focus of attention to the middle of the 1980s. With the miserable performance of the London unit efforts of turn key deliveries, a ceiling was put on the ambitions and project failures like the SAADCO debacle in the early years of the 1980s, the large systems had proven very difficult to manage. But backed down to within the traditional related constrained format the systems efforts continued both in the form of solving distinct functions and food systems turn-key deliveries.

A distinct 1970s pattern was the *value-added* strategy concerning international production structure. It included rationalizations including closed low value-added activities which were largely local activities, standardization of activities, concentration to fewer locations. The effect was that Swedish units, still profit centers within the parent company, acquired a greater control over international production and technology development. Having for



years upon end been a local national concern, the control over international production was centralized to what in effect was the Swedish parent company.

Another effect was a concentration to Swedish facilities, with an increased proportion of Swedish employees during the 1970s. This concentration peaked in 1980 with 40.7 per cent of the total employees being in Sweden. The concentration to Sweden was furthermore largely a concentration to the Tumba facilities. With the parent company, major divisional offices, staffs and important workshops Tumba alone accounted for more than 10 per cent of the entire company's number of employees in 1978. The move in 1980 to Kyoto, Japan, of the separator workshop in Tumba, visibly halted the concentration to Tumba and Sweden, and in fact was the beginning of Tumba's decline.

Before going further in time, an interesting pattern, counter to the relatively strong centralization patterns, is the continued reliance on, and in effect the reinforcement of the national sales forces. The generalist foreign subsidiaries in a sense moved towards marketing companies with after-sales service responsibilities. There is a marked but weak pattern of unification of market appearance.

An intriguing component in this development is the successive erection of national head offices buildings during the 1970s.

The externally triggered, but internally amplified 'crash of 84' is an important part of understanding later events. Largely, it served as an accelerator of change patterns already under way, but in part the remedies devised later led the firm's development in new directions. *Agri* was worst hit by the events, and in consequence the most affected by subsequent actions. Over 1985 and 1986 the operations were rationalized and restructured, including turning the extensive sales forces over to retailers. *Agri* had long since been a semiautonomous unit, but now the remaining links to other Alfa-Laval units were in practice severed. From 1986/87 *Agri* could well be regarded as a portfolio holding, albeit a portfolio asset with a long history of ownership.

Already rationalizations from 1982 and the company-wide quality campaign in 1983 had marked a renewed interest in production matters. A pattern of *core specialization* accelerated with the 1984 events leading to a fundamental rearrangement of 'upstream' functional activities in the mid 1980s. The most radically addressed were the separation units which came to arrive at a structure of three specialized factories in Europe, with a central spares inventory in Glinde, Hamburg. National considerations played no longer any part, and Sweden hosted one of the three units.

Product- and business development practices went through a fundamental change leading to *diversity and growth*. From 1986, business development was decentralized from the

parent company head office - not to national companies but to the product companies now renamed Business Areas - and the effect was something like opening the gate on a racehorse. A string of international acquisitions led to a (re)increase in market diversity with new brands brought in, new competitive arenas and several new and geographically dispersed technology centers opened up. The long term internal development practice was overshadowed by acquisitions and a related linked diversification pattern. The 'renewed' product companies quickly established themselves. The regained growth led the company from some 15000 employees in 1985 to around 21000 in 1990, the lions share being outside Sweden, and the profitability increased to the highest figures recorded.

The changes in *organization structures* led the company from the age-old mother-daughter form with a Swedish parent company and national foreign subsidiaries. Similar to the developments of products and business development, there are a series of linked change patterns discernible. The domestic changes *from functional to divisionalized form* of the parent company precipitated the changes in international management. The functionally organized parent company had formally remained until 1968 when the domestic product-oriented 'sectors' were first formed. The formation of divisions was in itself an extended process, with iterative elements and successive redefinitions of product areas until the late 1970s. By 1978, the divisions were formed that in fact were to form the basis of the Business Areas from 1986.

The growth of the might of the divisions, informally and formally, was a prerequisite for their influence in the subsidiaries, for example in the rationalization and closure of low value-added item production.

The changes *from nationally defined to cross-border organized activities* largely came later. The country-defined foreign subsidiary structure that was established during Bernström's time remained the basic form of international management for a very long time. The systems reorientation of the 1950s and 1960s was initially absorbed by the national foreign subsidiaries. Departments were added in the subsidiaries with responsibility for the new activities, but the basic structure of international management was left intact. Thus, whereas the product offering of the company changed with the systems effort, the international management structure continued to be based on a traditional headquarters - subsidiary role distribution into the 1970s. There lay some claim to the irony in a comment by Ellard Berntorp, long-time technical director of Alfa-Laval AB that

*"The organization of Alfa-Laval was ultimately determined by the Congress of Vienna in 1815."<sup>83</sup>*

The cross-border organization structure arrived in a series of changes from 1979 and during the 1980s, forming the pattern. The formal organization structure changes that are highly visible hide as much as they reveal. As has been pointed out, there was an ongoing undercurrent of minor formal changes that tends to be obscured by the light of the major and relatively rare formal restructurings. Part of the 1979 changes was a formalization of the developments described above: a strengthened parent company head office, formed divisional offices alongside national market companies. The time obviously was not ripe for a shift in favour of cross-border organization. Instead two matrices - for the industrial products and for Agri - with a product - country orientation was opted for. The matrix organization was in effect, albeit not necessarily by intention, a processual instrument leading the firm through a difficult transformation period. When the matrix was installed in 1979, the foreign subsidiaries had the upper hand in many of the discussions arising. But over the years the power shifted towards the product divisions. Thus, the matrix should not be seen as a *construction*, but as a *process* and possibly an organizational process well suited to achieving change in large, complex organizations facing ambiguous circumstances. It allows the changes to grow from within, and achieve legitimacy as the changes emerge, rather than require ex-post legitimization efforts.

But the undercurrent had begun in the 1970s and continued after the matrix was abandoned. The demands on uniformity of local organization, the subsidiaries' loss of direct contact with the managing director, the split of foreign subsidiaries into Industry and Agri companies, then after 1986, into Business Area-dedicated market companies etc., came to create a symmetry between all markets, including Sweden. There was a series of many small or bigger organizational changes over a decade that gradually brought the organizational elements into a cross-border theme.

When the product divisions became business areas in 1986, they achieved autonomy to pursue the respective interests. The business area reorganization preceded the acquisitions binge, which was the most manifest effect of business area autonomy. The formal reorganization also preceded the final split of what was at the time called the Mixed Market Companies. From 1986 to 1990, the remaining operative market units were essentially divided between the now business areas, which assumed operating responsibility. The creation of national holding companies in 1987 was an important step in the development.

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<sup>83</sup> This quote was conveyed to me by Lars Halldén.

The arrival of the Economic Reports Manual (ERM) in 1970 marked a significantly increased level of ambition for the *administrative coordination* of the firm. With the standardization and the formalization, and with the pooled information flows, there emerged a pattern of *administrative centralization* with the parent company head office as the focal point. The first and possibly critical phase occurred during the 1970s, with international implementation of the standardized package, including coordinated budgeting and standardized format for economic targets. During the 1970s, the administrative unit was internationally the national foreign subsidiary. Varying local organization meant the further probing into the subsidiary was hardly worth while. Before moving on to other aspects of the administrative development, it should be pointed out that the information handling capacity of the head office continuously also increased during the 1980s, with information streams continuing to be fine-meshed and yearly improvements and adjustments to the administrative systems being made. As such, the pattern of administrative centralization has continued throughout the transformation process.

The 1979 business area reorganization led to a demand for uniform local organization structure in the national foreign subsidiaries. This marked the beginning of a countertrend: a decentralization of administrative control to the product divisions. Uniform organization was to standardize information flows on the next level and to make international consolidation of product line results meaningful. Gradually, the product division would build administrative clout through a string of actions, including product division controllers and staffs and proprietary information handling and computing.

The initial effect, in the early 1980s, was that the divisions came on a par with the capacity of the national subsidiaries, which of course had always had administrative capability. By 1984, there were very similar information handling capabilities in parent company head office, in divisional offices and in the subsidiaries. In fact, the early 1980s exhibits a significant *administrative complexity* with three different types of administrative centers, a complex set of performance measurements and the extensive standard administrative package complemented by informal requests. The business and organizational complexity was amply expressed in the administrative complexity.

If the 1970s saw a modernization of administrative routines, the mid-1980s exhibited an intense change period from 1983 to 1988 of a '*post-modernization*'. During this time the administrative systems rapidly changed to a set of practices employing the latest in technologies and financial systems innovations - all with a decidedly 'global' character. Head office computing was out-sourced, PCs were introduced, a telecom network was built up, internal invoicing was passed through a clearing office, an internal bank was

organized, part of the finance function was relocated to London, the balance sheet was activated with real estate companies organized, the finance function was incorporated, local controllers were made part of the international finance company - not of the local firm, and eventually operating units came to be measured on operating performance only, with finance separated. The results were somewhat paradoxical - both a marked centralization of economic information flows as well as central control of all financial flows, and a decentralization to the operating product areas. Meanwhile, the need for national administrative capability and capacity was dwindling. For example, a superfluous computer in Glinde was turned into a central information handling unit for the emerging Agri Eurowarehouse.

### **Changing roles**

What do the changes in context and management systems entail for the functions, the foreign subsidiaries, the product divisions and the corporate office ? How do the roles of these offices change? This piece will twist the perspective around and view the development of Alfa-Laval from four angles: function, foreign subsidiary (and the foreign subsidiary manager), product division and finally corporate office.

Roles may be seen as the expectations of behavior bestowed upon individuals or organizational entities (e.g. Scott 1987). The ability to exercise organizational behavior in relation to the expectations may be seen as reflected in the different aspects of international management; formal authority, control of technology development, access to information, influence in recruiting matters, ability to change remuneration policies, access to communications for a, etc. Such structural characteristics of the management systems, and their change over time, partly determine the ability to exercise the expected behavior associated with a certain role.

Earlier research has paid considerable attention to the issues of roles played by parent company headquarters and of the foreign subsidiary. This dyadic exchange has often been approached in terms of the autonomy of the foreign subsidiary vis-à-vis the headquarters. Later research has argued that relationships between units are more complex and suggested a network model with heterarchic rather than hierarchic relationships between units.

The aim here is to explore the changing roles of parent company headquarters, divisional office, foreign subsidiary and foreign subsidiary manager over the transformation process, as reflected in the developments of the management systems.

Before discussing the changing roles from the point of view of the foreign subsidiary, the product division and the corporate office, it may be wise to make clear the extent of the redistribution of responsibilities, or redifferentiation of the activities and functions of the international operations, as well as the support activities. Several claims, including Porter (1986), have been made that the changing nature of the basic functions is an integral part of building the integrated international firm. The Alfa-Laval developments support these contentions.

A series of changes in the basic production processes contributed to the changing roles. Production of core components was centralized in the 1970s, following a period of decentralized responsibility. Another major wave of production rationalization and coordination took place in the 1980s and resulted in a network production structure for the separators, with international specialized plants, focussing on different types of separators. Lower value-added production in the subsidiaries was closed down during the 1970s. This had been a local business, and the closures resulted in a substantial reduction in the number of local employees. Over a period of two decades, the subsidiaries were finally left with very limited scope in terms of basic production processes and direct control over production. Production and R&D became a concern of the product divisions, and the lower value-added production was closed down or sold.

The downstream activities were the last to be affected by the changes. The foreign subsidiaries traditionally held inventories for their respective markets, marketed and sold a wide range of products and provided after-sales support in the form of spares, repairs and service. Up until the mid-1980s, there were substantial local storage facilities, that later were converted to other use, or rented, as logistics was separated during the 1980s as a separate function. Later, decisions were taken to the effect of regionalizing repairs and service, instead of the traditional national definition. Of the foreign subsidiaries' activities, the marketing and sales function remained a nationally defined activity. However, these functions were locally differentiated by business area, with marketing plans subjected and approved by the product division. Outbound logistics was in the process of being centralized in the late 1980s. This change concerned several product divisions (business areas) and most of the European market companies. Compared to other publicized examples of international logistics networks, the time period seems rather late, and came

quite some time after the integration of the production system. Late in the study period, decisions were made to the effect of regionalizing after-sales service. Marketing remained a local concern, but coordinated through market plans with the respective product division.

Responsibility for the support functions was also reshuffled. An important function remained distributed among the units: human resource management. The local company was responsible for employment, replacement and promotion of all local staff and workers. This included salary levels and bonuses for all local employees, including local business area managers. The mixed market company manager also remained responsible for the appointment of local division (business area) managers. This formal arrangement seems to have been complemented, in the late 1980s at least, by informal contacts between local management and the global business area manager. Training of local division managers however, was to a great extent the concern of the business area.

Finance, and cash flow-related activities, including currency exposure, were centralized to the corporate office in the mid-1980s. As late as in the mid-1970s, each foreign subsidiary had treasury and finance in much the same manner as a stand-alone company would have; it handled its own currency exposure, had local banking and invoiced in a 'bilateral' mode. For the product divisions, the centralization and loss of the finance function was not so dramatic. The product divisions were profit centers at the outset, not legal companies, and the development of these units partly coincides with the centralization of the finance function. It may be noted, however, that the product divisions for some years were measured including in terms of financial performance; a practice that ended in 1988.

The long-term or strategic coordination processes showed a redefinition and separation into business and corporate strategy levels over time. This happened gradually, but increasingly rapidly during the late 1980s. Also, the relative capability for the foreign subsidiaries to pursue local opportunities diminished over time. Rather, there was a convergence, a centralization to the divisional level. There was a sort of symmetric movement, from the national subsidiaries, from the corporate office and to the divisions, with the corporate office achieving a clearer role.

#### *The role of the foreign subsidiary - from national company to local sales office*

At the outset of the organization development process that was described, the international structure was based on national foreign subsidiaries reporting to the parent company head office. The foreign subsidiaries had the authority to represent the company

in its country and the responsibility to pursue business opportunities within the country on behalf of the company. The national foreign subsidiary was both legal and operational counterpart to the parent company; i.e. it was the center of both investments and operations.

Within reasonable limits, the national subsidiary was both authorized and had the capability to take local initiatives. It had the authority to carry out its local business in a manner that was largely decided locally. The larger subsidiaries had the capability to carry out local initiatives; their own product development and factory, purchasing department and a warehouse to store goods, local finance and administrative routines.

For the foreign subsidiaries, the effect of the changes in responsibilities for function and activities, and changes in other managerial practices, was the gradual stripping of capability for self-determined action; what amounts to decreasing autonomy. The changes should best be seen in an interplay between basic-value adding activities and the management systems. Changes in both the basic value-adding activities and the management systems gradually integrated the local activities in cross-border action flows.

The creation of domestic product divisions in 1968 had little immediate effect internationally. Still in the early 1970s, the foreign subsidiaries - the mixed market companies - were important 'affiliate companies'<sup>84</sup>, controlling their own value-adding activities and enjoying substantial autonomy from the corporate -, parent company office. A visible manifestation of the role played by the foreign subsidiaries at this time - or at least how the foreign subsidiaries perceived themselves - was the series of national head office buildings erected in the 1970s. In the light of the developments pictured in this study, these glass and concrete offices were anachronisms already at the time of their construction, mirroring past history rather than the future opportunities of Alfa-Laval. Some were built with future expansion in mind. An expansion that never materialized, but instead turned into a contraction through rationalization, leading to overcapacity in prime office space, in industrial production and storage buildings, and even computer mainframes. The real estate assets of the company instead came to be a substantial hidden reserve for the corporation that was to be of great value in the late 1980s, with the change towards an acquisitions policy.

The point of contact between the foreign subsidiary manager and the corporate office gradually became more "junior" and more entangled in formal arrangements. Up until 1971 all, foreign subsidiaries reported to the managing director of Alfa-Laval AB, then Hans

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<sup>84</sup> The notion used in the ERM manual.



Stahle. At this point in time, Harry Faulkner was appointed as deputy managing director and the responsibility for foreign subsidiaries split between Hans Stahle and Harry Faulkner. Consequently, not all foreign subsidiaries had direct access to the managing director. Even if the foreign subsidiary manager would approach Hans Stahle, it is likely that, over some time, Stahle would have been at an information disadvantage vis-à-vis his deputy, and the formal arrangement would have turned into a real one. A further 'dilution' of the point of contact came with the business group organization in 1979, when the responsibility for the foreign companies was distributed among a larger group of members of the corporate management committee. This distribution of information / budgeting / goal formulation responsibility for the market companies thereafter remained in the corporate management committee in the shape of governors, GMRs and the like. Undoubtedly, the long careers within the company would present possibilities for circumventing the formal arrangements. Long-time foreign subsidiary managers, such as Nils Beckstrand of the German subsidiary, had a long 'partnership' with Hans Stahle. Over time however, this informal network constituted a mediating force; a possible source of inertia as well as a source of control when the organization was in a period of change. In 1987, the creation of local holding companies reduced the mixed market companies - the previous foreign subsidiaries - to one of several local investments. Formally, the MMC manager started to report to the local holding company manager, which is a formal demotion. Practically, this did not seem to have had much effect, and the policy in 1990 for European countries was not to build local administrative superstructures, but to have 'line' managers in the largely formal board of the holding companies. Still, towards the end of the 1980s, the mixed market company managers reported formally to the local holding company and in reality to the GMR at the corporate office.

Before 1979, the subsidiaries' local organization varied substantially. From that time - in conjunction with the business group organization - and onwards, it was required that the internal organization mirrored the corporate organization structure.

In the mixed market companies, a number of activities were shared. They were internally organized with a combined after-sales and service department, and combined overhead services and costs, including controllers office and information processing.

Several policies supported the united appearance of the diverse activities operating under the mixed market companies. Following the construction of central subsidiary offices during the 1970s the local divisions were required to be located in the Alfa-Laval building. The universal blue Alfa-Laval logotype enhanced the unity and the divisions often made a coordinated appearance at local trade fairs. Consequently, there were several policies that

throughout the 1980s supported the united Alfa-Laval image towards the market, and thus supported (legitimized?) the mixed market company.

Throughout the period, a financial objective was set for total local profitability of the mixed market company. Combined with the targets for the individual local divisions, set by the business areas after 1986, it helped create a matrix environment in the mixed market companies. The corporate office continuously communicated a short-term, 'financial', profitability interest through this channel, which was combined with the more operational and strategic targets from the global product divisions.

Overall, the change process in terms of the changing role for the foreign subsidiary seems like a sign of post-modern times. The subsidiaries over time were deconstructed and split by activity. For each activity, a new integration pattern emerged, based on its own logic. The important observation in this respect is that in the new logic the nation was a relative, not an absolute component.

*The role of the foreign subsidiary manager - from national icon to ...*

In the earlier mother-daughter structure, the managing director of the foreign subsidiary held a prominent position - a generalist, managing an 'affiliated' company with all or most value-adding functions, with his own local headquarters where he received visits from the parent company.

In the early 1980s the mixed market company manager was "*king of the country*" in the matrix organization in place at the time. The business group organization had replaced the one-dimensional country management with a dual responsibility and partly a new role for the foreign subsidiary manager. A parent company manager in 1982 remarked:

*"The power has moved from the subsidiaries towards central management. On the other hand, the foreign subsidiary manager really is boss and can never be circumvented. The corporate office backs the foreign subsidiary manager against all attempts from the divisions to bypass the subsidiary manager."*

Still in 1982, the yearly Alfa-Laval management conference was a conference for foreign subsidiary managers and business group managers. The then subdivisions' managers were not included, i.e. still in 1982, the managers who were to become business area managers were not part of the most senior yearly gathering. By 1987, this had changed, but by the addition of business area and staff managers, sharply increasing the number of participants

and effectively changing the nature of the meeting. The foreign subsidiaries were excluded from the 'quasi-board' at the corporate office, effectively barring them from an important corporate strategic forum, which had both symbolic and factual implications.

The manager of mixed market companies was appointed by the corporate office and was responsible to that office. However, following the 'Americanization' of corporate 'officers' and the appointment of a multitude of vice presidents in 1986, no mixed market company manager received the status of vice president.

Hedlund and Åman (1984, pp.104) discuss the role of the local subsidiary manager and suggest several functions that the subsidiary manager could perform even though the competition was becoming global:

1. Negotiations and contacts with local and international financial institutions.
2. Representing the firm as a whole when dealing with external stake-holders of the non-business kind (government etc.)
3. Acquisitions and major investment projects.
4. Controlling large projects involving several divisions.
5. Helping to formulate and disseminate the overall, global company strategy.

The changes of the management systems of Alfa-Laval had over time come to pull the carpet from under the manager's feet in most of these possible functions. Financing was made a corporate concern, and organizationally made a separate business area. The local controller was part of this international business area, and not under the sole control of the local mixed market company manager. Legally representing the group versus local governments was the local holding company, not the mixed market company. In the cases where the MMC manager was also the holding company manager, he was exercising the function indicated, but as an effect of the position as holding company manager, not as MMC manager. The function of acquisitions manager had a bearing in 1987, although as a supportive, suggestive and implemental rather than decisive role. The large projects control function also remained, but of less importance as Alfa-Laval had learned how to handle this business, which essentially had come to be a Food Engineering concern with internal purchases regulated through commercial agreements. After 1987, the mixed market company managers in Alfa-Laval had only an indirect influence on the corporate and business strategy formulation of the firm. The corporate strategy was crafted in a dialogue with business area managers, in the 'quasi-board', and external advisors. The global business strategies were a concern of the business areas. It seemed that the MMC managers

had very little influence in any of these areas. Formally, the MMC was responsible for the implementation of business plans, although this in practice left the MMC manager with a monitoring function.

The mixed market company manager remaining in 1987 was clearly no longer the *"king of the country"* of 1982. The changing and future role of the mixed market company manager was frequently and spontaneously commented upon by the respondents:

*"..cardboard figure..."*

*"..in Europe the role of the MMC head is of no importance. He can take over the largest Business Area locally (if he is smart). Unavoidably, the status is going down."*

*"..a cost administrator."*

*"Thank God I'm not in his situation."*

Much of the role for the mixed market company manager in the late 1980s seemed to be dependent on his informal position, and informal factors influenced the 'bargaining power' of the mixed market company manager in 1987:

- The quality of the business areas' strategy development varied, making the local managing director an important speaking partner for some local business area representatives.
- The quality of contacts and interaction between local business area and business area headquarters varied, again stressing the role as speaking partner.
- Historical personal relationships between the local managing director and the local heads of departments.
- Knowledge of, and contacts with the local business environment.

#### *The role of the product divisions - from domestic product sectors to global product companies*

The changing role of the product divisions in many respects mirrors the development of the role of the foreign subsidiaries. The product divisions have become the prime vehicle for pursuing the cross-border-defined business opportunities, and consequently assumed most of the responsibilities the foreign subsidiaries earlier had.

The product divisions in their modern form are a product of the 1960s. The first product division to be formed was Agri in 1963, followed by the divisionalization, "sectorization", of the operations of the parent company in 1968, when a profit-center structure was adopted. The divisions were conceived as single business units with responsibility over value-adding activities concerning their product/ markets. From the first sectors of the parent company in 1968, to the global business areas of 1986, the divisions steadily gained in importance and visibility. A number of actions and events contribute to this development. If we magnify the picture, and look at the internal organization of the late 1980s business areas, this theme gets stronger. The business areas of the late 1980s resemble the corporate chart of the late 1970s, with central staffs, divisionalized structures and opposite numbers for the divisions in the dedicated market companies.

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Some critical events in the development of product divisions

- 1968 - sectors in the parent company
  - 1971 - first foreign production units under divisional control
  - 1973 - formal formation of divisions
  - 1979 - the business group organization - principle of dedicated market company established, demands on the foreign subsidiaries in order to improve consolidation of product division performance measurements
  - 1982/83 - decentralized divisional information systems
  - 1983 - incorporation of the product divisions
  - 1984 - parent company management and staffs move to Alvik
  - 1986 - product divisions become business areas, business group superstructure disappears
  - 1986 - decentralized acquisitions policy
- 

The product divisions have over time come to assume the responsibility for the functions of their respective value-adding chains, and coordinated these internationally. Product development and manufacturing were first coordinated. Control over downstream activities did not come until the 1980s. Most important was the 1980s practice of not incorporating acquired companies into the existing foreign subsidiary structure.

Changes in the management systems show the increasing recognition, status and proximity of the product divisions to the corporate office. The demands on foreign subsidiaries to standardize internal organization, in 1979, was a recognition of the need for

cross-border measurability of product divisions. However, still in the early 1980s, the product divisions had limited authority vis-à-vis the mixed market companies. One foreign subsidiary manager commented that:

*"The divisions are basically lobbying organizations."*

The incorporation of the domestic activities of the industrial product divisions in 1983 was at the time a symbolic gesture, but pointed at things to come. Also, in 1983, the corporate office moved away from Tumba, leaving the divisions with a clearer role, for example vis-à-vis the staffs. The product divisions finally achieved the status as first line in the formal organization as a result of the business area reorganization in 1986. As the business group level disappeared, the visibility of the product divisions matched their real authority.

Another aspect of the business area organization was the "Americanized" nomenclature of the positions of the firm. In the layered vice president structure, the business area managers received a prominent treatment. The business area reorganization granted group vice president status to business area managers. Following the business area reorganization, the indirect reporting relationships disappeared, and there was no formal intermediary between the corporate management and the product divisions. However, this change in isolation was a largely cosmetic new order, as Lars Halldén remained as COO (formerly head of the business group industry).

In conjunction with the 1986 changes, the product divisions were formally given responsibility for the international development of their product/ market areas, long-term and short; global responsibility for business strategy development, global responsibility for goal formulation, and global responsibility for budgets.

However, there were also limits to the extent to which they could develop their information systems after 1986. Economic reports passed through the corporate office although some divisions received, illegitimately, direct reports from "own" market companies. The corporate information system provided gross margin product line profitability every four months, broken down by application. The divisions could decide on bonuses for "own" market company managers, but not for the local business area manager in mixed market companies or for the mixed market company manager. Overall, human resource management continued to be an area where the global business areas did not have full formal authority internationally. However, they did exert an informal influence in key recruiting in the mixed market companies pertaining to the business area. The product

division appointed managers of "own" market companies, who were influential in the recruiting of local business area managers in the mixed market companies

We have seen the two global business area team spirit and culture projects in 1987. Concerted efforts had been made to develop Business Area cultures, specifically in Agri and Thermal.

The business area manager from 1986 was both in practice and formally a central position in Alfa-Laval AB. Appointed by the corporate office, and with membership in the "quasi-board" of Alfa-Laval; the key management committee meeting three times per year.

Alfa Laval, in 1987, was developing in different directions on the Business Area level. The Business Areas were striving to define business ideas and strategies for their product lines and to communicate these to the personnel, in Sweden and internationally.

#### *The role of the parent company - from national parent to corporate headquarters*

From the functionally organized parent company up until 1968, the Swedish head office of Alfa-Laval evolved towards a role associated with the classic corporate office.

The route away from operating matters began in 1968 with the sectorization of the parent company. The responsibility for functional matters of domestic operations was delegated to the new sectors, and a corporate office formally created. Consequently, the immediate control over value-adding activities no longer resided with corporate management. Still, there have been long-lived functional corporate staffs, e.g. production and especially technology, that in a sense express an ambiguity on the part of the corporate office. In the mid-1980s the staffs were reorganized into a "corporate " format. The corporate technology staff function was finally abolished in 1989.

Some actions and events in the early 1980s were key in the making of the corporate office as distinct from the traditional parent company. In 1982/83, the parent company gave up its attempts towards uniform information systems handling for all product divisions. In 1983, the product divisions were incorporated and legally divided from the parent company. Central staffs were split between parent company and product divisions in 1984, when also the parent company moved physically to Alvik. From this time, it is meaningful to talk about a corporate office as distinct from the old parent company. By these changes, that had their origins much earlier and that would continue into the late 1980s, the corporate office had separated itself from the product divisions as well as from a distinctly Swedish setting.

In the 1970s, it is difficult to see a very clear distinction between corporate and business strategy formulation. Eventually such a distinction was formally made in 1986, when the new business areas were entrusted with international responsibility for business strategy in their respective product/ markets.

The intended role of the Executive Group Management of the business area organization, as described in documents from 1985, was to direct and control the group operations through the business area organization and was thereby to be relieved of much of the daily, operational work, free to spend time on corporate strategic issues. Among the stated issues were investments in new areas, and acquisitions. We should also note the "quasi-board" installed in 1986, a forum for corporate management and business area managers to discuss matters of strategic importance for the company.

If the corporate office had decentralized the responsibility for business strategy and for operating matters, other developments of the management system had a different, centralizing, direction. The most important is the centralization of all financial activities and resources of the corporation; currency exposure, cash management, invoicing, borrowing, etc. The centralization of finance had the effect of centralized investment control, throughout the multinational activities of the company. Another vehicle for the corporate office was the holding companies in each country, established as of 1987 and wholly owned by Alfa-Laval AB, controlling all Alfa-Laval assets in the country. For example, a real estate company was formed for the Swedish holdings, soon followed by similar companies in other countries. The real estate companies have been directly put under the local holding companies, and thus under corporate control.

Apart from the grip on finances, gradually more fine-meshed and standardized information systems - essentially what we discussed earlier as the administrative systems - provided the basis for the influence of the corporate office. The formal planning and control package was first introduced in 1970, which was the predecessor to the later ERM and the MISAL from 1988, although the local variances in organization prevented efficient consolidation of measurements across foreign subsidiaries until the corporate demands on foreign subsidiaries to standardize organization came in 1979. From circa 1980, the parent company had access to standardized periodical economic reporting systems. We should also mention the KL instructions, for heads of business areas and market companies. Interestingly, one of the reasons for the business area reorganization in 1986 was a perceived need for a more direct information system, with fewer levels for the information to pass. It was felt that the information had been insufficient around the 'crash of 1984', in terms of speed, and in terms of consequences for other activities. One of the ingredients in



the 'fine-meshing' of the management information system is the increase in units reporting to the corporate office during the 1980s, from around 100 to 300, partly arising from a policy of not allowing sub-corporations. All reporting flows pass through the corporate staffs.

Some later changes in the management systems even have a flavor of 'Geneenish' management ideas. Corporate staffs, following 1986, the right to issue so-called directives to business areas and market companies; a "soft" centralization of certain decisions and leading to standardization of policies and procedures. Also, the local market company -, or business area controllers were made part of the business area Finance in the late 1980s, leading to a situation where the local managing director had a controller which was not fully under his control. Both of these ideas seem reminiscent of Harold Geneen's normative ideas of the transparent corporation (Geneen 1988).

With the standardized information system, there is a standardized corporate budget process and format, in the course of which the corporate office issues goals for business areas and goals for mixed market companies. The corporate office approves the budgets for business areas and mixed market companies.

Alfa-Laval has relied both on informal and formal means for the motivation of personnel. Of the latter, bonus systems are an example, although the perceived subjectivity of the methodology with which the bonus was calculated prompted one foreign subsidiary manager to refer to the bonus as a Christmas present; however, the corporate office determined bonus for product division managers and for mixed market company managers. The long careers of managers in Alfa-Laval - a practice that has remained throughout the history of the company - must have transferred a motivation for the well-being of the company that went beyond the immediate remuneration policies; beyond a calculative relationship with the company. Perhaps we should remind ourselves also that the remuneration levels for managers of Swedish firms is of a relatively modest level in an international comparison. Apart from socialization through long careers, there are examples of concerted efforts of culture building. In 1984, "Harry's little blue" was such a campaign, although drowned in the more tangible events that year brought with it. The long careers also led to a well-established informal communication in the corporate management committee, as well as an intimate knowledge of operating matters.

The corporate office has assumed more and more of the capabilities and functions associated with the classic corporate office, as distanced from the operations of the firm. The basis for the role is the grip on the financial resources of the group. This increasing central control of the financial flows is one of the fundamental pieces of development over

the period studied. An important late development is the symmetrical measurement of operational units, where the financial performance has come to be excluded from the measurements. The national holding companies may be seen as a vehicle towards the symmetry, as the legal structure of the national holdings of the company came to mirror the corporate.

An identifiable pattern is that administrative systems have come to replace substantive control on the corporate office level (Doz and Prahalad 1981). Several changes indicate a substantially increased capacity for administrative control of international units. The introduction and development of the ERM during the 1970s and introduction of the MISAL manual in 1988 has led to a standardized economic control system. The importance of the budget has increased from 1984/85. Finance and treasury have been centralized and the corporate office has all but complete control over the firm's financial resources and over resource allocation. Other changes indicate a gradually decreasing capacity on the part of corporate management to make substantive input into the operating decision process. A delegation of basic work processes from the parent company started in 1968 with the formation of the domestic product divisions. A corporate technical staff was kept for long, and was for example substantively involved in the CAD/CAM system acquisition in the early 1980s. However, despite acquiring business area status for a couple of years, the corporate technological function had an unclear role vis-à-vis the product divisions and it was felt that the technological base of the firm was becoming too wide for any central technology staff to make an impact. The staff was finally closed and the corporate office no longer had own capacity for technological studies. Statements around the business area reorganization indicate a disbelief in the feasibility of substantive control over the Industry Group at that time.

The national holding companies formed from 1987 were acclaimed to have had little effect on the operations of the company. This was no doubt so, but the effect of the holding companies should be seen in the division of operations and investments. In so doing, the holding companies define the corporate vs. the operating (i.e. product divisions) sphere of interest on the national level.

Still, the corporate office of Alfa-Laval did not convert to investment company behavior. The operations of the company, as expressed by the businesses of the product divisions, remained related over the period. The acquisitions policy from 1986 led to related acquisitions on the product divisions level, not corporate unrelated acquisitions. Up until 1989, members of the corporate management committee had long personal experience of the operations of the company, both divisional and from the market company. After the

business area reorganization in 1986, there remained a corporate COO, responsible for the "internal life" of the corporation. Also, the policy was to have the periodical reporting by each legal unit in the corporation, i.e. no subcorporations were allowed but each dedicated market company still sent in periodical reports to the central corporate staff.

### *Summing up*

From a very distinct mother-daughter format with a Swedish parent company and semi-autonomous national foreign subsidiaries, the role distribution changed dramatically over the period studied. The parent company evolved in part into a corporate headquarters of the international concern with near holding company properties and detached from operations, in part into operating product divisions with international scope. The foreign subsidiaries eventually became split up by product and by function. By the late 1980s, the main actors were, firstly, the corporate office, and, secondly, a series of global divisions with division-dedicated market companies and international functional networks. There was no role for the national foreign subsidiaries.



## Chapter 9

# GLOBALIZATION AS ANOTHER INTERNATIONALIZATION PROCESS

*Globalization as another internationalization process; a 'European' model of a sequence of stages and internationalization processes; stages and internationalization processes in Alfa-Laval; the legacy of structural alignment theory in international management;summary*

In the previous chapters, an empirical account of the cross-border integration of Alfa-Laval was presented; an account which was developed in the context of the historical development of the international management of the firm. In this and the upcoming chapters, conceptual frames will be applied.

As an orientation, the upcoming three chapters will develop a discussion on the nature of the cross-border integration change process, with emphasis on the revolutionary or evolutionary aspects, given the framing that will emerge in this chapter. This will be done through three perspectives. First, a punctuated equilibrium perspective (Tushman and Romanelli 1985) will be tried, eventually found wanting as a descriptor or source of understanding of the empirical material, but important as a tool for focusing conceptual issues. Second, an alternative in the form of an evolutionary cycle of divergence and convergence, under conditions of loose coupling (Weick 1976, Orton and Weick 1990) is argued to provide a conceptualization of the empirical material. Third, the organizational evolution theory (Campbell 1965, Baum and Singh 1994, Baum and McKelvey 1999) is employed to extend the processual perspective already formulated as a research approach (Pettigrew 1985, Van de Ven 1987), again with the ultimate aim of conceptualizing and

generalizing the findings. On the basis of the theory driven and empirically grounded, partial images, the final chapter will draw conclusions on the nature of the process of transforming international management in the established MNC.

The focus of this chapter is the temporal location of the transformative cross-border integration process in the context of the historical development of the MNC. By doing so, the importance of the cross-border integration in the history of the MNC may be grounded theoretically and empirically and, the cross-border integration may be framed temporally and structurally. This will be done through studying earlier empirical and conceptual research on the development of the MNC and developing a generic framework for modeling the development in a succession of stages and intermediate change processes. This model is mainly based on the numerous international management forms that have been proposed in the field, and thereby a theory of structural alignment is the dominant figure of thought throughout. The Alfa-Laval experience will be brought in dialogue with the constructed model. In relation to the specific Alfa-Laval experience, the objective of this chapter is to locate and frame the cross-border integration process in the light of the long-term history of the firm and thus to assess the importance of the process in the history of the firm.

### **'Globalization' as another internationalization process**

The growth and development over time of the international firm and the management thereof are phenomena that have attracted a significant amount of research attention. An important stream of that research has presented structurally aligned organizational forms of the international firm at various points in time as well as presented development models in the form of successions of organizational forms. International management research has in this way produced a great number of images of international management. By images I mean organizational descriptions that capture organizational life in the same way as a photographic image captures movement; true, but partial, bound by perspective and frozen in time.

*"An image is a sight which has been recreated or reproduced. It is an appearance, or a set of appearances, which has been detached from the place and time in which it first made its appearance and preserved - for a few moments or for a few centuries. Every image embodies a way of seeing. Even a photograph. For photographs are not, as is often assumed, a mechanical record. Every time we look at a photograph, we are*

*aware, however slightly, of the photographer selecting that sight from an infinity of other possible sights."*  
Berger (1972,pp9)

The available images of the international firm are developed at different points in time, arrived at from various perspectives, adapted to various environmental circumstances and offering various means of organizing and operating geographically dispersed business activities of the firm. Some are, at the point when written, claimed to be a part of the past, some a piece of the future. Some are positive statements as to how the firm *does* function, some are normative claims as to how it *should* function. In some these distinctions are not so clear. Some images are proposals for strategic alternatives given a set of situational characteristics. Some stand by themselves.

The diversity in theoretical frame of reference, empirical approach and in researcher's role is broad in the international business field in general and international management in particular<sup>85</sup>. The strategy-structure tradition with its roots in Chandlers (1962) work, but methodologically often coupled with cross-sectional studies, has shaped much of the logic and language of international business research (e.g. Stopford 1968, Stopford and Wells 1972, Franko 1976). Comparative studies of firm generic strategic and organizational development, ultimately based on Chandler's definitions, using a reasonably fixed typology have been produced for a number of countries (Channon 1973, Tanneiser 1972, Pavan 1972, Pooley-Dias 1972). These were as such more or less direct descendents of Scott's (1973) typology and study of American Fortune 500 material. With the national orientation and similar definitions and methodology, these studies permit an international comparative perspective. In international management, the tradition has been continued with efforts to 'fine tune' contingency factors (Egelhoff, 1982).

An organizational behavior perspective generated a different image (Perlmutter 1965, 1969), with the stages of internationalization portrayed rather as a process of gaining maturity in the attitude towards internationalization, seemingly inspired by phases in the growth of the human individual from infant to adult. A relatively child-like stage of self centeredness in the form of an 'ethnocentric' attitude, followed by an adolescent 'polycentric' period, ultimately leading to a mature acceptance of difference and the glory of those particular differences, in the 'geocentric' attitude. A combination of the above but process-oriented (often acknowledging inspiration from Joseph Bower) with case studies

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<sup>85</sup> This conceptual diversity is also identified in, for example, Schendel (1991), Doz and Prahalad (1991), Melin (1992).

and clinical empirical work, generated yet another major series of proposals (various works of Yves Doz, C.K. Prahalad, Chris Bartlett and Sumantra Ghoshal). The hierarchic, structural and rational information processing perspective came to be matched by a 'heterarchical', voluntaristic natural systems-oriented view of international management (Hedlund 1986, Hedlund and Rolander 1990, Hagström and Hedlund 1993)). Eventually the works of these researchers were argued to constitute a "*process school*" of international management (Doz and Prahalad 1991). A macroeconomic perspective on the forces that may build and sustain the international firm's competitive advantage leads to yet another conceptualization (Porter 1990, Sölvell, Zander and Porter 1991).

### *Integration and responsiveness*

Whatever the stance in perspective, much of international management research revolves around the relationship between local and global issues. These are two underlying principles, fundamental to understand the specific nature of the heterogeneity of the international firm. The principles may appear manifested in 'pure' form, in formalized mixes or generally muddled. If the principle of national responsiveness (Prahalad 1975) is manifested throughout the various layers of international management, the resulting form may reflect polycentric attitudes (Perlmutter 1969), exhibit the traits of mother-daughter relationships (Franko 1976) or present a decentralized federative structural configuration (Bartlett and Ghoshal 1989) - a multi-national form. If the cross-border integration is the underlying principle, the 'pure' expression of that principle may contain ethnocentric or geocentric attitudes (Perlmutter 1969), a centralized hub structural configuration (Bartlett and Ghoshal 1989) and/or a product divisionalized organization structure. The key here is the underlying principle and its manifestation throughout the elements of the firm, not whether that manifestation corresponds to any pre-specified form.

The two principles may appear in a formalized combination. Already Stopford and Wells (1972) argue for a set of organizational forms adapted to various situations: a product divisionalized structure when the foreign product diversity is high (which may serve as a proxy for integration needs) combined with a low degree of foreign sales, and area division (e.g. national subsidiaries) when a low foreign product diversity is combined with a high proportion of foreign sales (which may serve as a proxy for local responsiveness). With development and growth, and subsequently developing situation of simultaneously high foreign product diversification and high foreign percentage of sales, the managerial



construct needed to effectively operate becomes increasingly complex, and Stopford and Wells (1972) argue that the grid (matrix) is a logical answer. In these early results, there is a dynamism in the development from the very simple structure towards increasing complexity with growth and development of the international enterprise, where this complexity manifests itself as increasing needs to simultaneously attend to local responsiveness and cross-border integration.

The mixed combination may not be an elegant 50/ 50 matrix. It has been proposed that in-between organizations may be the norm in practice rather than reflecting the ideal forms of international management research (Hedlund 1984).

Based on definitions of the issues of national responsiveness and integration across-borders in early works (Prahalad 1975, Doz 1979), the interrelationship of integration and responsiveness was later widely spread in the form developed by Bartlett (1986), Prahalad and Doz (1987) and Bartlett and Ghoshal (1989), that conceptually and graphically confronts the structural needs for integration and responsiveness. A bearing line of thought in these works is that it is necessary to apply the framework on several levels of analysis as different combination may be evident depending on, for example, formal organization and functional levels of analysis. A formal 'pure' organization form on the top level does not preclude the existence of (muddled) matrix relationships when increasing the level of magnification. Overall, the framework of an integration-responsiveness grid portrays international management as a continuing structural force field between local and global considerations.

The images of international management here are, quite bluntly, organized into an integration/responsiveness framework that provides alternatives of international involvement. It may be read as alternatives ranging from marginal dependency on non-domestic markets to a situation where the firm is highly dependent on the international aspects of its activities. There is, towards the upper right hand, an increase in complexity of the managerial solutions proposed, in line with but not necessarily derived from the general 'Chandlerian' argument that increasingly complex strategies lead to increasingly complex organizations. With these admittedly judgemental categories, the development may be mapped.

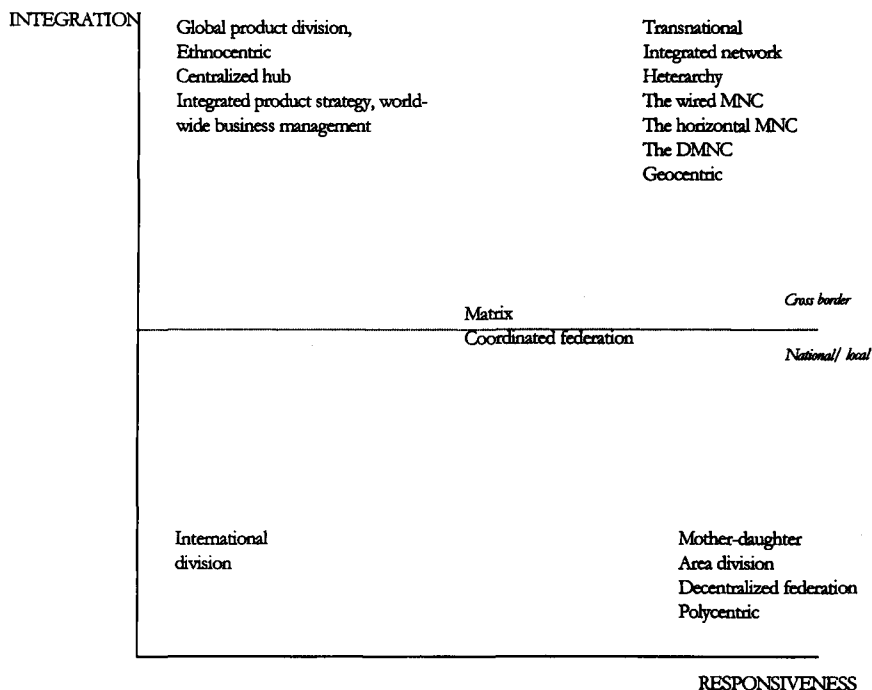


Figure 9.1. International management forms in the IR-grid.

Source. Adapted from Doz and Prahalad (1987), Bartlett and Ghoshal (1989).

Some images of the international organizational form are part of a sequence of stages in the development of the multinational corporation towards some higher form (typically more complex and with increasing dependency on non-domestic markets and sourcing) of international management. Several models of the organizational development towards increasing complexity and international involvement in the form of a sequence of structural alignments have been proposed (e.g. Perlmutter 1969, Heenan and Perlmutter 1979, Stopford and Wells 1972, Franko 1976, Vernon 1979, Bartlett 1986, Bartlett and Ghoshal 1989).

One point when using Perlmutter's (1969) model and the model by Bartlett and Ghoshal (1989) in the same context should be made. While Perlmutter (1969) suggests the posited forms to be stages towards increasing international dependence, Bartlett and Ghoshal (1989) argue that forms very similar to the ethnocentric and polycentric managerial attitudes instead may be seen as regionally oriented, alternative starting points in the road

towards becoming a transnational firm, rather than stages. The centralized hub (akin to the ethnocentric in Perlmutter's 1969 terms) is argued to be typically Japanese<sup>86</sup>, while the decentralized federation (akin to the polycentric in Perlmutter 1969) is argued to be of typically European descent. The decentralized multi-national of Bartlett and Ghoshal (1989) owes a great deal in its properties to both Perlmutter (1969) and Franko (1976). They add to the first two an American type: the coordinated federation (with no direct Perlmutter companion). Thus, Bartlett and Ghoshal (1989) arrive at a typology of three regional, historically determined, international management models, and consequently of varying globalization patterns.

The ethnocentric and polycentric firms, using Perlmutter's (1969) language, are fundamentally of national orientation. The ethnocentric is a single-culture, often exporting firm, whereas the polycentric is a multiple-culture, federative firm (Franko 1976, Bartlett 1986, Bartlett and Ghoshal 1989) - both reflecting a recognition of national borders in the management structure. Stages 'higher' than these present cross-border managerial solutions. International matrices or 'grid' arrangements, as well as later proposals such as Hedlund's (1986) heterarchy or Bartlett and Ghoshal's (1989) transnational firm all are cross-border organizational constructs to varying degrees.

#### *Local context matters*

Significant variation in modes of international management has been identified to be the case both when looking at a national level and a regional level. One of the early important contributions was the study of European, 'continental', firms by Franko (1976), convincingly arguing for a European management pattern dissimilar from the US firms that provided the reference point for his study (Stopford and Wells 1972). For example, Franko's (1976) study indicated that the MNEs of a European background typically had a different organizational development history on the route towards 'global', i.e. cross-border, structures. The European companies typically retained their nationally responsive organizations later than their North American counterparts, and when they changed, moved directly to global structures. The US companies typically employed an organization

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<sup>86</sup>As an exception to what is otherwise a compelling argument one might circumstantially note that the Swedish forestry industry exhibited traits of a centralized hub for a long time: ethnocentric attitudes, concentrated asset structure combined with exports, and tight controls of foreign sales companies.

with all foreign activities organized under an international division as an intermediate way station.

If Franko (1976) provided arguments for a distinction between American and European managerial traditions, Alfred Chandler's (1990) *Scale and Scope* increased the magnification and argued with great empirical detail for national variation when comparing the US history with that of Great Britain and Germany. In fact, the German practice, he argued, in some respects was closer to the US than that of Great Britain.

### *Managerial convergence*

With the globalization in the 1980s (cf e.g. Porter ed 1986, Doz 1986), an important issue became the future of the national or regional variations. The criticality of Bartlett's (1986) and Bartlett and Ghoshal's (1989) influential work lies in the teleological proposition that the local or regional variants were going through a period of convergence towards a new dominant managerial model. They outline three typical early "*administrative heritages*", US, European and Japanese, all of which are facing pressures from a globalizing business environment to remedy the weakness of each in such a way that a convergence is observable. The point of convergence they outlined is the "*transnational solution*".

The line of studies leads us to be careful in attaching generality to conclusions when studying internationalization and globalization of international management in MNCs. If holding the position that not only structural characteristics but also, or dominantly, the individual firm's past development is important for the issues at hand as well as how issues are addressed, the patterns of internationalization and globalization may be particular to a certain geographically or culturally defined business context.

In relation to the presented integration - responsiveness framework, the issues of this study focus on the movement from a nationally responsive area divisionalization, such as that of national subsidiaries, to a pervasive cross-border solution. Obviously, the range of options for the later situation is great. However, the specific variant of the end-state is not critical. It is the transformative change process that is in focus.

### **A 'European' model of a sequence of stages and internationalization processes**

With an international organization development model, the research interest of the transformative globalization of international management can be framed and located in the

long-term growth and development of the firm. Acknowledging that context matters (Clark and Mueller 1996), the model recognizes the propositions of a typically European pattern, and thus is oriented towards firms of European origin. A study of a firm of different origin should benefit from a modification of the proposed model, which has also been done for example in the Eli Lilly study - an 'ethnocentric' company's route towards an integrated mode of management (Malnight 1995). The development model provides a historical perspective of the emergence of cross-border management solutions.

The prime research interest lies in the cross-border integration change process, rather than in the specification of the form of cross-border management. That is, the principle area of study is the integration process which for an established multi-national firm has lead, or leads, to an integrated borderless configuration. In relation to the development model presented, it is a strategic and organizational change process posited to link two reasonably well-defined structural configurations.

Seen from a historical perspective, the cross-border integration process of the firm and international management becomes another internationalization process. It is a crucial step in the development of international business, where the integration across-borderlines of previously nationally defined operations is the key distinguishing feature.

### *Infant international management*

In order to cover the development of the firm's mode of management from its initial international experiments to the later integrated cross-border firm, the modeled development starts with the entrepreneurial firm. The often-absent starting point<sup>87</sup> is the embryonic firm with an infant international management.<sup>88</sup> By this, I mean the young entrepreneurial firm beginning to look towards international markets - the starting point of both the growth and development of the firm in vertical, geographic and product dimensions (e.g. Hofer and Schendel 1978) and of the internationalization process. This is a period that may be of considerably different length depending on the size of the national

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<sup>87</sup> In the works of Stopford and Wells (1972) and Franko (1976) the modelled development starts with a firm that has some international involvement. Similarly, Perlmutter's (1965,1969) model discusses three (later, four (Heenan and Perlmutter 1979)) sets of managerial attitudes towards international organization and operation.

<sup>88</sup> I took the liberty of borrowing the term infant from the excellent title of Maria Lindkvists (1991) doctoral dissertation.

market in question. An international firm with a background from a large home market, such as a US firm, may well be infant in an international sense, while of considerable size nonetheless. A firm from a country with small home market, for example a firm of Swedish origin, quickly saturates the limited home market.

The managers of the infant international firm engage the firm in an international establishment process, leading from marginal to substantial dependence on foreign operations. This is the turf of internationalization pattern propositions of the product life cycle model (Vernon 1966) which provides great insight into the behavior of US-based multinationals in a period of international expansion after World War II, or the 'Uppsala school'<sup>89</sup>, that outlined a generic international establishment pattern especially applicable to the historical development of older European MNCs. From an empirical base in the 1970s of four case studies (Johansson and Wiedersheim-Paul 1975, Johansson and Vahlne 1977), the group of researchers was able to build a resilient series of arguments outlining the international establishment process of the firm. Central to the process is what in essence is a dynamic risk handling model where the two processes of learning and investment result in growing knowledge about international business and 'commitment' to international markets. A key concept, guiding the sequence and pace of international diffusion is the composite notion of 'psychic distance', leading to a possible explanation why, as an example, MNCs of Swedish origin would first invest in the Nordic countries, then in Northern Europe, followed by southern Europe etc. Here, learning allows the firm to gradually overcome 'psychic distance'. In a parallel process, successive investments would lead the firm from marginal local commitment, such as in the case of a contractual sales agent, via a sales subsidiary to significant FDI in the form of both a production plant and real estate holdings, and thus of a considerable long-term commitment to non-domestic markets. As a whole, the Uppsala School provides a compelling and resilient view of the early years of international expansion. The validity of some of its propositions in a 'wave of international modernization' (Lyttkens 1986) have been tested (e.g. Nordström 1991), and found relatively robust.

The establishment process coincides partly with a development from ethnocentric to a polycentric firm (e.g. Perlmutter 1969), but also deals with generic issues of growth and development. As such it has parallels to Chandler's (1962) discussion of the development from entrepreneurial issues and the growth of the firm. The Uppsala school may be seen as

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<sup>89</sup> There are a great number of publications spawned by these arguments. Later discussions are summarized in, for example, Johansson and Vahlne (1990).

reflecting firm growth and -internationalization from the small country's perspective, where the growth and development of the firm soon and almost inevitably leads to issues of internationalization. Even if the management does not have an international expansion in mind, the successful start-up soon faces internationalization issues.

The infant multinational



International establishment process

Multi-national management



Cross-border integration process

Cross border management

Figure 9.2. A model of stages and processes in the development of a European MNC.

### *Multi-national management*

Historically, international establishment process leads to what may be called a multi-national form with multi-national management. As we saw earlier, there is reasonable consensus among observers for an ideal form of international management, predominantly European, based upon national responsiveness and structured in a poly-national, or polycentric way (Perlmutter 1969). National foreign subsidiaries have been argued to have provided a strong periphery versus a relatively weak center (Forsgren 1989) in a federative structure (Bartlett 1986) where coordination was largely of an informal nature (Franko 1976). Perhaps the best researched, and best formulated model of this multi-national, polycentric mode of managing particularly European international firms in a period of economically important national borderlines is made by Franko (1976) in the shape of the 'mother-daughter' structure.

Given the attributed importance of the mother-daughter structure in the development of international management of European companies it is worthwhile detailing this rather well researched form of nationally oriented management. One of the principal characteristics of European multinational firms in the early days was the highly personalized relationships

with the foreign subsidiaries (Franko 1976). The historical root was the early nepotistic practice of appointing relatives of the owner or managing director to lead the foreign subsidiaries (Franko 1976). The practice survived into the 1970s in the form of a reporting relationship from subsidiary manager to parent company manager, albeit with less familial ties, and it is a relationship between parent company and subsidiary based on the personalized mode of coordination and control that Franko (1976) coined as a mother-daughter relationship.

The mother-daughter structure combines a functional domestic organization structure with national foreign subsidiaries (Franko 1976). Differentiation of international activities was based on national borderlines and in fact none of the managers in the mother-daughter organization had cross-border responsibilities, in contrast to virtually all other forms of organization (Franko 1976). The foreign subsidiaries were generally "complete" local operations with R&D, manufacturing, warehouses and after-sales service. Support activities include human resource management and own administration functions such as finance and local bank relations, treasury and controller. The foreign subsidiary would be led by a generalist who in many respects would be running a separate firm.

The relationship between parent company and a foreign subsidiary can be described in relatively short and simple terms. Physical goods delivered from the parent company; monetary streams in the form of payments for goods from the foreign subsidiary and yearly dividends from the foreign subsidiary. On top of this very simple operating relationship, the relationship between the managing directors of the parent company and of the subsidiary was of great importance to the functioning of the firm. Another point of contact of more subtlety is that of technology transfer. Typically, the sibling multinational was based on a technological advantage and the international expansion was based on the diffusion of the new technology. Consequently, the parent company was the supplier of technology in the early days of the expansion. In the mature MNC, the pattern of technology transfer was rarely as one-dimensional. Instead, subsidiaries located in countries with special requirements or strong demanding customers would locally develop products that eventually developed into a benefit for the whole company. With local initiatives and new transfers, the product range of the foreign subsidiaries would grow and the subsidiary would develop into a complex company more or less mirroring the parent in product range, functions performed and administrative complexity.

The parent company acted in a number of roles: as owner, demanding yield on its investment; as supplier, delivering physical goods; and as partner, transferring technological know how and perhaps a core component. The partnership role also manifested itself in



the relationship between the managing director of the parent company and his local counterpart.

Written rules and procedures played a limited role in the control of international operations. Franko (1976,p189) found that firms with structures other than mother-daughter trusted standardized reporting periods and document formats to a much greater extent. Franko argues that the informal practice was in sharp contrast to the typical American multinational company with

*"...job descriptions, bibles of rules, and the frequent use of local nationals as foreign subsidiary presidents." (Franko 1976, p190).*

This suggestion of a culturally bound pattern, where firms of European origin typically were different in this respect from firms of American origin, was later picked up by Bartlett (1986), and by Bartlett and Ghoshal (1989) in their formulation of the 'integrated multinational' model, which models a typical American firm relying on formalized management to a greater extent than its European counterparts.

Despite the informal, unwritten nature of mother-daughter management contracts, the control was not loose or haphazard. The managers sent out often came from families well established in the home country's society, and in the manner of Roman proconsuls, had spent years absorbing the values and practices of the company at home *being "educated as good Romans"* (Franko 1976,p190) before being sent out to the colonies. Consequently, from the point of view of the parent company managing director, the subsidiary managers were quite predictable and trusted not to do anything that wasn't in the interest of the group. Franko (1976) argues that the managing director of the subsidiary had a set of very precise however informal constraints, and cites an example where a mother-daughter firm achieved

*"...nearly total worldwide standardization of policies relating to product mix and diversification, product quality, brand names, product design and formulae, external versus internal financing and personnel promotion and reward systems. This occurred without anything resembling a system for reporting and control." Franko (1976,p192)*

European managers usually spent their working lives within one firm (Franko 1976), and developed a strong sense of loyalty to that firm. Franko argues that this formal means of control could to some extent be substituted with personalized means such as loyalty, but

that pressures were mounting in the early 1970s for a change to alternative structures. Another factor that lay behind the sustained mother-daughter form may have been what Franko found to be the limited use of joint ventures of firms with mother-daughter structures. These firms relied almost exclusively on wholly owned foreign subsidiaries.

Although there is some consensus regarding the multi-national form as such and its particularities, there are disagreements about its longevity. Having worked with American empirical material, Perlmutter (1969) and Stopford and Wells (1972) - who specify a comparable stage with "*autonomous subsidiaries*" - tended to regard a polycentric stage as transitory.

On the other hand, Franko (1976), who specifically studied the organizational development of European international firms, linked the mother-daughter form to the macro-economic conditions which prevailed in Europe for a long time - possibly a century, and also seems to have regarded the organizational form as of longer duration. Looking at case material of Swedish international firms, we find indications that transitory may be a rather inappropriate description for the observed extended periods of 'mother-daughter' organization form (Hedlund and Åman (1984). When set to study the organizational development of an older and established European international firm, we must bear in mind that the multi-national form of organizing and operating the international firm may be of some longevity.

#### *The cross-border integration process*

For the older international firm with long experience as an established multi-national firm, operating with an overriding strategy of national responsiveness, restructuring in the form of a cross-border integration process is necessary to bring the firm on towards becoming a cross-border firm. If the establishment process may be referred to as internationalization of the first kind, the integration may in part be referred to as internationalization of the second degree (Forsgren, Holm and Johansson 1990). Through this process the previously nationally defined operations had to give way to a mode of operations where the cross-border concerns largely overrode national concerns or where at least the national concerns were a relative factor among many other organization design factors. The nature of the cross-border integration process will be discussed at length in the upcoming chapters.

The nationally fragmented world has arguably given way to new conditions for international business management where a traditional nationally responsive strategy (Doz 1986) is largely feasible only behind some very specific and protective, often government-related, barriers (Doz 1986, Porter 1986). The integration process eventually leads to a situation when the international aspect is an integrated part of the firm's operations, and where limited difference is made between domestic and non-domestic activities. I will generically call this later stage a cross-border firm. The critical characteristic of this stage is that the international firm is bound by an underlying theme of cross-border organization and operations. Activities such as manufacturing configuration, logistics and technological development; responsibility and authority imposed through formal organizational constructs, administrative routines; career patterns, socialization and a sense of identity should all, ideally, be subject to solutions that stretch across-borderlines, or where the national borderlines are one of many considerations. This of course allows for a number of variations in of how the management of the global, cross-border integrated firm should be configured. These are models of an international firm adapted to the demands of the later 'borderless' world and reflect the findings of research on international industry restructuring and the need for combining international scale with local adaptability as discussed by way of the intergration/ responsiveness grid (e.g. Doz 1986, Bartlett and Ghoshal 1989). The models describe the new organizations that are assumed to rise from the ashes of the old country-defined organizations.

Models allowing for international integration of activities, and to varying degrees stretching beyond the earlier preoccupation with formal organization structure and formal means of coordination and control in the international firm include the multi-focal firm (Doz 1986), the diversified multinational company, i.e. the DMNC (Prahalad and Doz 1987), the transnational (Bartlett 1986, Bartlett and Ghoshal 1989), the heterarchy (Hedlund 1986, Hedlund and Rolander 1990) and the wired MNC (Hagström 1991). They all revolve around solving and incorporating the complexity and dynamism of the new demands by way of departing from adding conventional complexity-solving techniques through differentiation and integration. There is a certain amount of consistency across these models of the cross-border firm. Elements include an emptied hierarchical structure, social power based on knowledge and expertise, a network approach rather than a dyadic relationship between headquarters and subsidiaries, ad hoc work constellations, decentralization of strategic initiative, normative control rather than substantial,

information sharing rather than information monopolization, learning rather than information distribution. The international firm relies on normative control as the formal organization chart is diffused through the multiple and diverse centers, the slow response of formal administrative mechanisms and the structural indeterminacy of the innovative cross-border firm.

In this context it should be pointed out that the 'network' models are not without criticism and do not stand uncontested, and again that the general change towards cross-border behavior does not necessarily imply a re-conceptualization of international management to the effect portrayed above. Criticism of the 'network' or process models tends to revolve around the complexity and the risk of loss of efficiency of operations (Sölvell and Zander 1991, Egelhoff 1999). From an industrial organization perspective stems the model of the home-base multinational (Porter 1990, Sölvell, Zander, Porter 1991, Sölvell and Zander 1991). Not immediately concerned with the managerial aspects, the home-base model argues for a limitation in the geographical dispersal of units in the international firm of reasons drawn from the structural properties of the nature of the innovation process required for the continuous renewal of the firm's competitive advantage. This ultimately stems from the tacitness of knowledge and the alleged difficulties in transferring tacit knowledge. As such, the model exhibits both similarities and adversities vis-à-vis the models derived from a 'managerial perspective'. The home-base multinational, it has been argued, infers a somewhat different set of managerial practices (Sölvell and Zander 1991) which generally retain more of the rationalistic properties of earlier international management research and a less complex structural configuration.

### Stages and internationalization processes in Alfa-Laval

A series of forms and intermediary change sequences were identified above from earlier research on the historical evolution of the internationalization of a European MNC. Applying this development model to the Alfa-Laval case gives us an opportunity to view the succession of organizational forms and change processes in one particular firm<sup>90</sup>.

The long-term evolution of Alfa-Laval exhibits considerable continuity in many aspects of the firm throughout its history. Control over the company was held by the same *owner group*; the firm encountered the same group of *competitors* from the 1930s onwards; from the very

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<sup>90</sup> Cf Van de Ven (1992).

early days the firm addressed the same *customer groups*: milk farmers, dairies and later naval fleets, which continued to provide a foundation for the firm; the products have been centered around the same *core technologies* - separators, PHEs and milking machines. The later transformation period in many respects provided a departure from long standing historical practices.

Alfa-Laval was not '*infant*', nor a national firm for long. Almost from the start in 1879 Gustaf de Laval and Oscar Lamm seem to have aimed towards international markets. With the incorporation of the firm in 1883, the international expansion had already begun, with sales agents established in several European countries. International expansion was part of the firm's growth from the start, and before the Swedish market was saturated.

Thus, virtually from the start, the firm was engaged in an international ***establishment process***. The speed of this process was remarkable, also by the alleged '*nanosecond*'<sup>91</sup> standards of later days. By 1885, two years after the incorporation of the firm and six years after the foundation, the products of AB Separator were available to customers in all European markets, North America, Australia and New Zealand. AB Separator went where the cows and the milk farmers were. Even local manufacturing was begun; a factory was established in the USA in 1883. It was an expansion largely based on offering customers a technologic leap compared with the output of earlier existing cream separation techniques. The firm helped bring dairies into the industrial age by offering a mechanized separation technology in the form of the centrifugal separator. The then high tech firm enjoyed a substantial technological advantage and managed to outmaneuver most existing competitors with similar offerings.

The idea of separating national from international expansion is not very fruitful in the case of Alfa-Laval. The growth of the firm occurred largely through an international expansion process. Looking back at the long-term development of Alfa-Laval one can distinguish a rather extended expansion and international establishment process from the foundation of the company in 1879/1883 to a multi-national firm with established foreign subsidiaries in 1914. Following the lead of the Uppsala school, this period may well be divided in two: first, a very quick establishment of national agencies up until 1885; second, a consolidation of positions over a longer period of time, where the agencies were gradually exchanged for wholly owned national foreign subsidiaries. This second process was finalized for all major nations before the First World War in 1914. During this time period, the separation technology developed quickly. The original de Laval patent actually provided

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<sup>91</sup>Peters (1993) characterizing the international competitive environment.

only a limited time period of protection, and it was the patent for alfa-plates, acquired from Germany that was to propel the firm's growth. The international market coverage expanded rapidly and the initial local agents were replaced with proprietary foreign subsidiaries. The customer needs and customer groups that were to be the focus of the firm's attention for many years to come were identified during this time, and market-driven products were developed in succession of the product-driven initial expansion, notably the milking machines (although the milking machine was launched on the market around the end of the war). Undoubtedly, the 'reign' of managing director John Bernström from 1887 to 1915 was a period of formation, resulting in a functionally organized parent company, exporting core components to national, wholly owned foreign subsidiaries.

The formative years with the company's integrated international establishment gave way to an extended period with *a multi-national form*. With expansion in the national markets, the subsidiaries grew into substantial business enterprises, not only with responsibility for local marketing and after-sales service but a large functional repertoire including production of higher and lower value-added goods, product development, and local treasury including local banking. The largest subsidiaries - notably the US and German subsidiaries - mirrored the parent company in size and scope. The subsidiaries contributed substantially to the development of the firm's products and product range - for example, the milking machine that was developed in the US subsidiary Lavalco. Some subsidiaries manufactured products only vaguely related to the core of AB Separator - for example the textile machinery made in the German subsidiary Bergedorfer Eisenwerk. The car body manufacture in the parent company was likewise unrelated and likewise a local development. The subsidiaries developed varying local organization structures administered according to local needs and preferences, with local means and by locally employed personnel. The multi-national structure proved very robust. It survived the tests of depression, World War II, perhaps strengthened by the war in its federative nature, as well as absorbing post-war expansion. While formed in the very early years of the 20th century the basic characteristics of the international management structure of the firm were to last into the 1970s. The temporal definition of the period depends to some extent on the perspective one employs. The starting point may be set at the worldwide establishment of sales through agents, with 1885 as the date, or with the conversion of agents to foreign subsidiaries that was realized by the First World War. While a process of integration across-borders was begun around 1970, the foreign subsidiaries continued to be the formally acknowledged, and for most product areas also de facto, vehicle for international business management until the matrix reorganization in 1979.

Having enjoyed considerable stability in the international management structure, the firm, as we have seen, became engaged in *a process of integrating the national operations* of the firm towards a cross-border configuration. The result of the ensuing organizational transformation process was in the end a revolution for the mode of international management of the company. There was a change from the ‘age-old’ geographically structured organization based on national foreign subsidiaries to an integrated cross-border management, where product and functional perspectives took precedence over national considerations. The temporal scope of this change process was considerable. The significant departures from the multi-national mode of management came around 1970, with the ‘sectorization’, i.e. divisionalization, of the parent company in 1968 as a crucial step. Thus, 1968 is a formally discernible starting point of the process. After increasing divergence from the singular national orientation of the multi-national era, the many aspects of the firm and international management converged around a cross-border theme following a series of changes in 1980s. From 1988, the cross-border orientation is relatively unambiguous, although changes continued throughout the final years of the 1980s. An organizational change process of twenty years may seem counter-intuitive, and I will return to a discussion of the temporal scope of the transformation process.

National firm	1879/83
Establishment process	1879 - (1885, 1885 -) 1914
Multi-national firm	1885 (1914) - (1968) 1979
Integration process	1968 - 1988
Cross-border firm	1988 -

Figure 9.3: Temporal definition of internationalization stages and processes in Alfa-Laval.

From the late 1980s Alfa-Laval AB was managed on *an integrated cross-border basis*. Most aspects of the firm were permeated by the cross-border theme and organized within an M-form construct. The global product divisions, business areas in Alfa-Laval, had become the focal organizing units. The production structure relied on a few internationally dispersed highly specialized factories, where goods were distributed through logistics

networks with central warehousing. Most of the functional concerns were a matter for the global product divisions<sup>92</sup>.

### *Observations*

Alfa-Laval came out as a rather typical older European MNC, but with some interesting features. The historical development of the international management of the firm superficially looks very much like the earlier postulated sequence of organizational forms for multinational firms of European origin. It moved from an establishment phase, via a multi-national or 'mother-daughter' stage, through a cross-border integration process, to a cross-border form. From a mother-daughter form the company went to a 'supranational' organization (in the form of, first, a matrix and, later, a product divisionalized structure), skipping the international divisionalized form found typical in American firms (Stopford and Wells 1972) - a fairly standard case for European international firms, as modelled already in the early works (e.g. Franko 1976).

However, the timing of the changes departs from earlier findings, both *when* things occurred and for *how long* the various phases lasted. The initial international establishment process was considerably faster than expected, beginning almost from the founding of the firm and an intricate part of its general growth. Within five to six years of its foundation in 1879, the products had found their way to all European markets, North America, to Australia and New Zealand. The firm 'grew up' as an international actor, where international markets always were part of the firm's interest. From an early date, the central vehicle for the pursuit of international business was semi-autonomous national foreign subsidiaries.

A cross-border nature of Alfa-Laval appears much later than indicated in Franko's (1976) study. In the early to mid 1970s - when Stopford and Wells' (1972) and Franko's (1976) information was collected - Alfa-Laval arguably had no global divisionalized or other cross-border oriented operations. The domestic divisions were in the process of being formed and initially as much geographic in definition - Lund and Tumba - as product-oriented. The divisions were predominantly domestic units throughout the 1970s, and the major steps towards an integrated cross-border mode of operating and managing the firm were taken during the 1980s. There are several reasons for this 'belatedness'. Alfa-Laval's strong

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<sup>92</sup>For greater detail in the cross sectional comparisons of multi-national and cross-border configurations, please consult the final sections chapters five and nine.



market position and stable competitive situation might have sheltered the firm and made it relatively insensitive to external pressures.

To varying, and sometimes surprising degrees, the periods are also extended in time. The very short initial expansion abroad has already been noted, which was followed by a rather extended consolidation of positions through the national subsidiaries. The multi-national, polycentric form of international management was clearly much more than transitory or an adolescent period of growing up (cf Perlmutter 1969). Instead, Franko's argument of the alignment of strategy and organizational form to the nature of the economic environment seems appealing. Through a period of time when Europe was still structured in the 'post-Westphalian' national states, fueled by nationalism and plagued by wars, the multi-national firm reflected the realities of the day. It could simply be that a federative mode of operating the large firm was good managerial practice - nor transitory, nor a historical mishap because of wars or the pains of growing up, but good management.

#### *The temporal and structural scope of the cross-border transformation process*

One of the objectives of this chapter is to make explicit the importance of the cross-border integration process in the historical development of the individual firm. As argued earlier this can be done by outlining the 'temporal and structural frame' of the process (Barley 1990). What changes were achieved, and over what time period?

Regarding the *temporal scope* of the change process, it was identified earlier as twenty years measured from the last point in time that a multi-national configuration was discernible and unambiguous, to the first point in time when Alfa-Laval AB had achieved a cross-border configuration. In the history of Alfa-Laval, there is a point in time around 1970 when the firm exhibited a multi-national configuration of the aspects of international management chosen for study. A series of actions and events around 1970 indicated a break with the long tradition of multi-national management. From 1988, the firm exhibited a sufficient number of traits of cross-border integration that I found it warranted to conclude that the transformation period was over and a new international management configuration obtained. This would indicate a total time period of twenty years measured from the formal sectorization of the parent company in 1968 to realized global product divisions in 1988. The latter was a point in time when national holding companies were in place and when performance measurements were divided between financial and

operational. In the next chapter I will return to this issues and argue that there is a feasible theoretical argument why the change process should be seen as so extended.

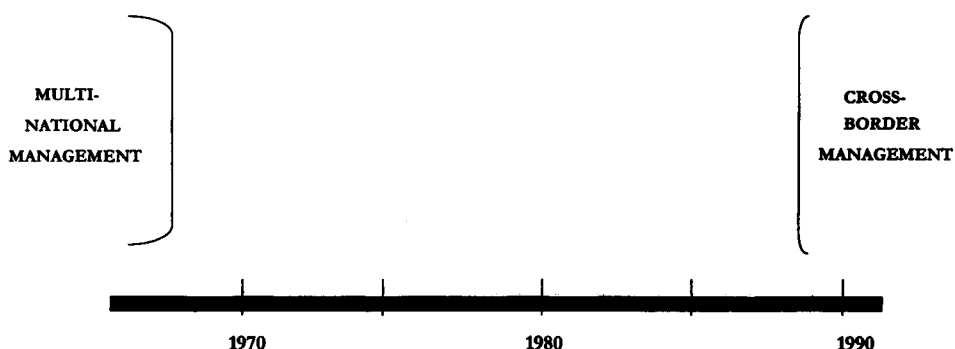


Figure 9.4. A structural alignment perspective on the cross-border integration process of Alfa-Laval.

The figure is obviously a very simple one with a low content of information, but it graphically illustrates the significance of the temporal gap between the two structurally aligned pre-specified international management forms, when applied to the experience of Alfa-Laval. In the upcoming chapters, I will venture to fill that gap with some substance.

Regarding the *structural scope* of the change process, the search heuristic guiding the empirical work was the cross-border integration process, reinterpreted as an organizational transformation process from multi-national to cross-border. If the structural scope was, albeit roughly, defined by *being* the search engine, the temporal scope, on the other hand, was *the result* of the same search. As such, there is of course little surprise that there was indeed a radical, comprehensive change for the firm from national orientation to cross-border integrated. In terms of content, the change may well be described as revolutionary.

### The legacy of structural alignment theory in international management

Issues of form and structure have been paramount in the development of research on international business management. Form has been seen as quite distinct, often in typologies in what evolved into a relatively fixed set of types; functional with foreign or autonomous subsidiaries, divisionalized with foreign subsidiaries, international

divisionalized structure, international matrix<sup>93</sup>. The field has a heritage, explicitly as in the nationally comparable studies by (Channon, and others 1972/1973, see earlier discussion) or in Egelhoff's (1982) work, or implicitly like the comparative studies of Leksell (1981) of a theory of structural alignment. Sometimes the explicit source of this thinking has been the influential structural contingency theory (e.g. Lawrence and Lorsch 1967). The images of international management have aimed at describing, outlining and detailing structurally consistent sets of properties, adapted to certain environmental characteristics. This conceptual base has shaped focus, language and logic of many international management studies (Hedlund and Rolander 1990).

With the structural alignment legacy organization structure results from an ahistorical constellation of environmental factors. Contingency theory has been widely discussed and criticized (e.g., Hofer and Schendel 1979, Miles and Snow 1978, Pennings 1975), also in an international management context (e.g. Hedlund and Rolander 1990). The criticism tends to focus on the ahistorical, deterministic qualities leading to isomorphism and generally to a poor understanding of the richness and variety in the organizing endeavors.

With a structural alignment perspective, environmental conditions pose requirements - strategy and organization structure should acquire a state of external 'congruence' (in Mintzberg's 1979a language) and internal consistency (Mintzberg 1979a, Leksell 1981). Hence the notion of an ESS (environment-strategy-structure) paradigm, or SSP; strategy-structure-performance paradigm (Hedlund and Rolander 1990).

One of the fundamental assumptions in this line of argument, and of great normative implications, is that structural fit is assumed to be the source of organizational efficiency and ultimately of the prosperity of the firm. Sometimes the normative proponents for structural fit have approached a level of alarm as when Miles and Snow (1984,p14) argue that "*right fit is the causal force*" in determining excellence in organizations. In the language of metaphors of organization theory, there is, in the extreme case, an underlying machine metaphor (e.g. Morgan 1986).

As a consequence of the structural contingency perspective, organization structure and organizational change are dichotomized. Furthermore, focus lies on structure rather than change. If organization development is studied, it becomes a sequence of discrete organizational structures or forms in a search for a series of points of equilibrium.

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<sup>93</sup> See Franko (1976,pp194) for a description of the 'classical' organizational structural configurations used in international management research.

In focus is stability. The change processes that lie in-between forms become rather faceless. In that the theory has much to say concerning the structural alignments, but considerably less of how these are arrived at, the perspective inherently highlights form, but leaves the change processes in the dark. Time is hardly an issue in the structural analysis, or if so in a secondary nature as the alignments can be placed on a timeline; there is an alignment or there is not. Change becomes inferred, not observed.

Somehow the influential heritage from Alfred Chandler (1962), who formulated two corresponding structural properties - strategy and structure - based on rich longitudinal empirical studies that amplified the complexity and longevity of the road from corresponding strategy and structure and towards a new correspondence, was largely carried forth employing the structural or 'convergent' argument that firms tended to seek a correspondence between the characteristics of the firm that he coined strategy and structure. This resulted in a considerable series of cross-sectional studies seeking fit between operational definitions of 'strategy' and operational definitions of 'structure'. In international management research this has been carried out in a great many works. These studies represent a wealth of knowledge about the development of the big international business enterprises and their strategies and organizational structures. But one problem with these studies is that they overemphasize the structural side of Chandlers (1962) argument, and thereby make the change between stages of development a rather faceless transportation.

## Summary

Summing up, the tradition in international management research of developing structurally aligned forms provided the first cut in approaching the globalization of international management in the established MNC. The result was the identification of a great number of propositions for structurally coherent international management form, each aligned to a set of external circumstances. Organizing these in the integration - responsiveness grid provided insights into the long-term development of the MNC. Arguing that context matters, the scope was narrowed to a European context and a model for the long-term evolution of the European MNC was proposed. In this model, three stages of development were linked by two change processes. The first of these change processes, the international establishment process, may be approached through the use of the Uppsala school of internationalization process (or arguably in an American context with the

product life-cycle model of Vernon, 1966). The second proposed change process, the cross-border integration process, becomes the focus of this study. The globalization of the established MNC may be seen as another internationalization process, linking the two relatively well-defined international management forms of national responsiveness through (multi-)national organization and an integrated cross-border orientation. As such the long-term development model serves to frame the key research focus.

The cross-border integration process of Alfa-Laval was formally framed in temporal and structural dimensions. The temporal dimension of the cross-border integration phase was unexpectedly extended. With its roots in the changes of the late 1960s, a new permeating international organizational structural configuration was not attained until the late 1980s. Specifically, *the integration process, it was argued, had been ongoing from 1968 to 1988, leading to an identification of the temporal scope of twenty years.* What perhaps is most striking is the extended cross-border integration process, which is clearly more than a faceless transportation.

There is no reason to assume that the model indicates the end of history; it portrays the sequence of developments in the history of the European MNC as indicated up until this point in time. New developments will come. As such a study of the nature of the cross-border integration process as a transformative process offers a potential for a generality of conclusions. Possibly, conclusions from such a study are applicable in other situations of transformation of international management.

*The structural alignment theories have little to say regarding the cross-border integration process.* The perspective elaborates upon the structural arrangement of environment, strategy and structure, and may provide an ordered sequence of such arrangements. But it does leave change process issues regarding the transformation of cross-border integration unresolved.



## Chapter 10

### THE TRANSFORMATION; PUNCTUATED EQUILIBRIUM APPLIED

*Evolutionary and revolutionary periods; the punctuated equilibrium perspective; cross-border integration as punctuation of an equilibrium; summary: a reading leaving unresolved but focused issues*

In the previous chapter, I located the cross-border integration process in a generalized model of the long-term development of the firm's international management. With a structural alignment perspective driving the analysis, the development towards cross-border international management was seen as a step in a sequence of stages of development. When applied to the experience of Alfa-Laval, considerable time was found to have elapsed between the preposited stages of multi-national and cross-border orientation of international management forms. The structural alignment perspective, because of its inherent properties, was never expected to have much information regarding the change process itself, but I experienced some surprise at the space of time left in the dark. Here was an extended period of time left in the dark during which substantial changes obviously had occurred. The approach to this challenge was to turn attention to the nature of the transformative cross-border integration process itself. How may the change process transforming international management be conceptualized? By what kind of process does the organization achieve radical change in content? Does radical change occur through a *process* that is revolutionary or evolutionary in nature?

In this chapter, the figure of thought of radical change through a revolutionary process will be pursued in the context of the transformative cross-border integration of international

management in the established MNC. The punctuated equilibrium perspective is identified as a feasible point of departure. Where structural alignment has a wealth of propositions regarding form but leaves change issues in the dark, punctuated equilibrium combines propositions regarding organizational form *and* change. The theory provides a general perspective from which to drive a discussion on the nature of a transformative change of international management. Earlier empirical studies of the cross-border integration process will be brought in to broaden the empirical base for a discussion of the length and the order of the change process, and instances of methodology employed in research generating a punctuated equilibrium perspective will be applied to Alfa-Laval.

### Evolutionary and revolutionary periods

There are a series of proposals for two typical periods of different change intensity in the life of the firm where long-term organization development has been seen as a sequential relay of periods of calm and upheaval. (Greiner 1972, Mintzberg and Waters 1982, also Pettigrew 1985a). An early influential conceptualization is that of Greiner (1972) who pioneered the use of 'evolution' and 'revolution' as descriptors of the two typical development periods of different change intensity, as well as the long-term rhythmic alternation between the two types of periods. Greiner (1972) proposed five dimensions for a model of organization development: age, size, stages of evolution, stages of revolution and, finally, the growth rate of the industry, where age, size and growth rate drive the evolution/revolution stages. By evolution, Greiner means the *"periods of growth where no major upheaval occurs in organization practices"* (Greiner 1972, p38), by revolution *"periods of substantial turmoil in the organization"* (ibid. p38). Empirical research such as the Steinberg case (Mintzberg and Waters 1982), indicates a rhythmic movement between rapid change periods and periods of rest, of consolidation.

An important, simple but fundamental notion that I somewhat cautiously will use to distinguish this line of thinking from the more 'primitive' strict structural alignment as it appears for example in the large-scale cross-sectional studies cited in the previous chapter, is that 'equilibrium' does not mean the absence of change activity. Change is continuous but of different nature.

*"Organizations are always changing, but on different levels of abstraction or inclusiveness."* Mintzberg and Waters (1982, p494).



The challenge for management is, after ten to twenty years of worrying about relatively mundane issues, such as "*flourescent lighting and new ways to package meat*" (ibid. p494), to change the mode of thinking to issues of great overall importance to the firm's survival, such as "*the impact of shopping centers on overall retailing habits*". For general organization development, Miller and Mintzberg (1983) combine a theory of change through a period of "*transition*" with the perspective of the firm in a "*configuration*". Form and change are mutually defined where the properties of organization structure are a determinant for the nature of change and vice versa. A couple of points of Miller and Mintzberg (1983) are highlighting the discussion. The 'systems design' work of the manager consists of periods of "*maintenance*", and periods of "*transition*". The maintenance period should be identified through its relative consistency and balance of the management systems, and a harmonious relation to the external context. The transition period should be characterized by rather the opposite: inconsistency, bias and a 'flurry' of design decisions. Regardless of how we name the different periods, i.e. of evolutionary vs. revolutionary periods (Greiner 1972); of continuity and change (Pettigrew 1985a); of sprints and pauses (Mintzberg and Waters 1982), the basic quality is dynamic, not static.

Continuity, i.e. periods of maintenance, has on the grounds of several empirical studies been identified and suggested as the norm rather than revolutionary change. Major reorientations in the life of a firm do not come very often. In the Steinberg study (Mintzberg and Waters 1982), major reorientations occurred three times in a study period from 1917 to 1975; in the early 1930s, in the early 1950s and in the early 1960s. Remembering Greiners (1972) claim that the industry context in terms of growth rate influences the frequency of revolutionary periods, the food retail business of Steinberg's may encourage long periods of relative calm, although the case may still be indicative of that major strategic reorientations are uncommon in the life of an organization. Similarly, Pettigrew (1985a) indicates three periods of "*high levels of change activity*" (Pettigrew 1985, p447) in ICI from the late 1950s until 1984; 1960 to 1964, 1970 to 1972 and 1980 to 1984.

### **The punctuated equilibrium perspective**

As we saw earlier, international business research has often adopted a stage-wise view of development, where historical evolution is seen as a progression through a relatively well worked out typology of structurally aligned forms. This does not imply an espoused

disinterest in change theory, but rather reflects a preoccupation with structural aspects and aspects of organization design which may partly be the result of earlier conceptualization and the research methodologies; measuring on a relatively abstract and detached level (e.g. classifications of strategy<sup>94</sup>), and measuring elements that may be of an inherently discrete nature (e.g. formal corporate organization structure).

The approach to globalization employed here is of globalization as a process of (strategic) change linking two specified organizational forms; a transformative process. The notion of transformation accepts the organizational forms, but highlights the process of change that leads the firm from one form to another. In so doing, the notion of a transformation bridges form and change, without necessarily overemphasizing either one. On a more generalist note, one of the demands on a dynamic theory of social development is for the theory to encompass both stability and change. Thus we are seeking a theory that will help us conceptualize the empirical findings by encompassing both organizational form and change.

The punctuated equilibrium theory is such an influential, conceptual structure with strong internal coherent logic (Miller and Mintzberg 1983, Miller and Friesen 1984<sup>95</sup>, Tushman and Romanelli 1985, Tushman, Newman and Romanelli 1986, Gersick 1991, Romanelli and Tushman 1994). The punctuated equilibrium theory provides a dynamic perspective where development takes place through a rhythmic change between two distinctly different periods of change intensity: long periods of continuity interspersed by relatively shorter periods of restructuring; periods of 'convergence and upheaval' respectively (Tushman, Newman and Romanelli, 1986). Gersick's (1991) synthetic work argues that the theory is generic and applicable in a wide range of scientific fields, linking stability and continuity to system transforming change in fields ranging from biological systems development to organization development over project pacing.

### *The periods of convergence - equilibrium*

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<sup>94</sup> An influential parallel is Rumelt's (1974) classification of corporate strategies for quantitative analysis, which were predominantly based on issues of diversification.

<sup>95</sup> The article of Miller and Mintzberg (1983) is incorporated into the book of Miller and Friesen (1984).

<sup>96</sup> Miller and Friesen's (1984) quantum theory is a slightly earlier theory with very similar perspective, although Tushman and Romanelli's (1985) concepts seem to have gained a greater acceptance.

The punctuated equilibrium perspective suggests that periods of equilibrium are periods of incremental, non-disruptive evolution. For the two intertwined reasons of efficiency and institutionalization respectively, the organization will perform well and resist change during this period (Tushman, Newman and Romanelli, 1986). The system is founded and centered on a resilient 'deep structure' (Gersick 1991). These are 'convergent' periods (Tushman and Romanelli 1985) and deviations (initiatives or variations) will be pulled back. Converging change is one of fine-tuning through such means as, for example, refining policies, methods and procedures, fostering the commitment of individuals to the company mission and promoting confidence in the accepted norms, beliefs and myths (Tushman, Newman and Romanelli 1986).

#### *The nature of form - resilient equilibrium*

The critical argument of the theory is that of the nature of form. It is the nature of form that leads to the normality of equilibrium periods and the changing to a new equilibrium through a brief revolutionary period. The nature of form explains when change occurs, the temporal scope of the change as well as the nature of change.

The perspective on the nature of the change process depends on one's perspective on the stability, of the resilience of organizational form (e.g. Gersick 1991). Form and change are mutually dependent and a proposition regarding one aspect is an argument about the other. It is in this particular context how we value the resilience of the multi-national form that will determine the perspective on the scope and character of the cross-border integration process. If we place a high value on the resilience of the forms, we would most likely assume also a quantum theory of change. Highly resilient forms lead to discrete stages in a distinct step-wise development where the steps are taken rarely and abruptly.

Form is distinct and of tight fit between structural categories (Miller and Friesen 1984). In fact, the resilience of organizational structure based on what Gersick (1991) calls 'deep structure' is one of the fundamental aspects of the model in that

*"the interrelationship of [continuity and change] is explained through the construct of a highly durable underlying order or deep structure". Gersick (1991, p12)*

The international management forms or typologies surveyed may be viewed as structural configurations (Miller and Mintzberg 1983). Seen as typologies these are internally

consistent systems in balance, or clusters of attributes of the environment and the firm that are more likely to appear than other combinations. These are holistic concepts, gestalts or archetypes. The configurations are "*commonly occurring clusters of attributes*" (Miller and Mintzberg 1983), made up of structures and processes of the organization, as well as aspects of its situation, external as well as internal. Danny Miller (e.g. Miller 1987a, Miller 1987b) has in a series of works developed the notion of configurations. Ultimately the Miller configurations have come to assume a near-archetypical flavor with a series of alternatives not unlike those of Chandler.

It should be pointed out that when I use the notion of configuration here, it has been transposed from Miller's- arguing that the forms in international business may be seen as structural, organizational configurations. The mother-daughter form, the international division, the global product division are assumed to be configurations; clusters of attributes of environment, business activities and organization that are more likely to appear than other combinations of attributes.

Distinct, dense and tightly coupled or 'quantum' organizational form, gives rise to 'quantum' theories of change, and one of the distinct contributions of Miller and Mintzberg (1983) and Miller and Friesen (1984)<sup>97</sup> is the deliberate formulation of a theory of the firm that incorporates form and change. The quantum change perspective hinges on the stability or, rather, the resilience of organizational form. Resilience may come from tight coupling of organizational processes and elements, resulting in a dense structure that only allows major change in the form of simultaneous change in a great number of organizational parameters. Change will thus be of a quantum nature (Miller and Friesen 1984). Consequently, the perspective of organizational change is interdependent with the perspective on organizational form. Quantum form gives rise to quantum change and we have indeed "*a quantum view*" of organizations (cf Miller and Friesen 1984).

On the other hand, if the resilience of form is questioned, i.e. if the change patterns observed are of an evolutionary nature rather than of a quantum nature, the tightly coupled structural form by consequence is questioned. Thus, the nature of the change process (whether evolutionary or revolutionary) is in reverse indicative of the nature of organizational form.

There are parallels here to the population ecology notion of *organizational inertia* (Hannan and Freeman 1977). I will come back to these discussions later on, but Tushman and

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<sup>97</sup>The article by Miller and Mintzberg (1983) is incorporated as one chapter into the book by Miller and Friesen (1984).

Romanelli (1985) were obviously influenced by the concept and rationale of organizational inertia.

### *The periods of change - punctuation*

The punctuating, quantum change is quick and chaotic; "*compact periods of qualitative, metamorphic change (revolution)*" (Gersick, 1991, p12). The nature of quantum change is one of disruption of established patterns, where the resilience of structure gives way. It is virtually the archetype of an ahistorical, revolutionary change. It contains the destruction of the earlier structure and the formation of a new;

"...first, a breakdown of the old equilibrium and a period of uncertainty about the future, before choosing a new basis around which to crystallize a new deep structure." (Gersick, 1991, p21).

It is an intense period; an indicator of an ongoing transformation is a "*flurry of design decisions*" (Miller and Mintzberg 1983). Miller and Mintzberg (1983) develop a perspective of organizations as structural configurations, and of the resilience of configurations. Given that the firm has achieved a configuration, the firm will delay changes until absolutely necessary, in order to maintain benefits from the relative order. Eventually, however, the fit to the environment gets worse, and the firm must adapt<sup>98</sup>. The ensuing change will be "*pervasive and dramatic, costly and disruptive*" (ibid., p71), because of the forces towards supporting the existing configuration. Therefore, the aim of management will be to make the transformation from one configuration to another as quickly as possible. The transformation phase by definition means that consistency of structure and process is lacking, and that the firm has lost compatibility with its old environment while not yet attained a fit with the new. Large-scale quantitative and cross-sectional empirical work is argued to support the contention that successful firms move quickly through revolutionary change, with simultaneous changes in many aspects of the firm (Miller and Friesen 1984, Romanelli and Tushman 1994).

The two characteristic periods have been identified as being built on two distinct change theories (Van de Ven and Poole 1995). The 'convergent' is based on an evolutionary motor of change in that "*competitive selection works to elaborate the structures, systems, controls and resources*

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<sup>98</sup> There is a parallel in Johnson's (1987) discussion of a 'strategic drift', over time forcing a widening gap between firm and environment and eventually a strategic change.

of organizations toward increased environmental coalignment" (Van de Ven and Poole 1995, p530). On the other hand, the periods of upheaval are based on a teleological change theory where the purposive actions of executive leaders are the motor. Not only is this an interesting piece on the employment of more than one of the 'primitive' change theories (Van de Ven and Poole 1995) in constructing organization theory, but moreover the two theories are mutually exclusive (Tushman and Romanelli 1985, Van de Ven and Poole 1995). At no point in time can we have the mechanisms operating simultaneously. The two logics appear in sequence and the sequentiality is 'hardwired' into the theoretical construct.

### Cross-border integration as punctuation of an equilibrium

The punctuated equilibrium model is used here to drive a discussion of the nature of the cross-border integration process. It is employed as a well formulated theory which serves to contrast the empirical findings and to help in conceptualizing them, and in so doing gaining a greater level of generality of the conclusions.

#### *Applicability*

Key is of course that the model is applicable for the type of change studied, which partially hinges upon if we see the effect of the cross-border integration process as revolutionary in content. Based on the findings of the Alfa-Laval study, I would certainly conclude that most aspects of the firm were affected by the change, and most radically so, and that the change from a national orientation to cross-border in the manner discussed earlier is indeed metamorphic, which is why the cross-border integration process may be analyzed using the punctuated equilibrium perspective. The change was *comprehensive*: virtually all parts of the firm and management systems were affected. As such it could well be seen as a *strategic* change process. The content of the change was *radical* in a long-term, point-to-point perspective: it fundamentally altered the mode of management of the firm. Taken as a whole, the transformation resulted in a *revolution* in the mode of international management. The organizational configuration was *transformed* from a near-federative, virtually typecast mother-daughter form, to a cross-border integration. In that process, almost all aspects of the firm were touched, affected or changed. The changes in roles make these effects all the more explicit. The parent company head office changes from a functionally organized, Swedish head office with exports to semi-autonomous subsidiaries

in other countries, to a corporate, detached office with an extensive, fine-meshed information system and financial control in its hands. The product divisions, which did not exist at the outset, served as the cuckoo's egg in the nest and eventually pushed out their rivals. The functions were largely locally managed in 1970, became specialized, international networks and structured to the needs of their specific activities. Finally, the national foreign subsidiaries that were once all-pervasive, simply disappeared in their traditional form <sup>99</sup>.

The research interest in this study focuses on the nature of the change process of transforming international management in the MNC. Two issues in that context, where the punctuated equilibrium perspective offers distinct statements, are the length and the order of the change. The basic line of investigation pursued in the following section is whether the cross-border integration process may be of a quantum or revolutionary nature (abrupt, disruptive and quick), or of an evolutionary (continuous, possibly orderly and extended) nature (Miller and Friesen 1984) <sup>100</sup>. In the following, I will specifically relax the punctuated equilibrium perspective assumptions of, first, a short period of change and, second, a chaotic period of change.

In this section, I will first explore the experience of Alfa-Laval in punctuation terms relatively briefly, then develop separate discussions on the length and on the order of the cross-border integration process based on a broader set of secondary empirical research.

#### *Applying a punctuation methodology to Alfa-Laval*

I found it interesting to see if, and where, in the course of the framed space of time a punctuation could be identified. As the methodology of some punctuation research has been very explicitly accounted for, it could serve as a vehicle for studying the experience of Alfa-Laval with that perspective. The methodology used by Romanelli and Tushman (1994), when analyzing transformations in a set of 25 microcomputer firms, was to code changes in three dimensions of the firm: strategy; mainly measured as product line changes, structure; found in major reorganizations, and power distribution; measured as changes in personnel/ titles below the CEO level. With an admittedly somewhat shallow analysis, a good candidate in the Alfa-Laval case would be the period of 1986 to 1989 as a period of punctuating change.

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<sup>99</sup> Please check Chapter 8 for a fuller point to point comparison.

<sup>100</sup> These two change theories correspond to what Van de Ven (1987), when discussing strategic change processes, identified as archetypal theories of change in social sciences.

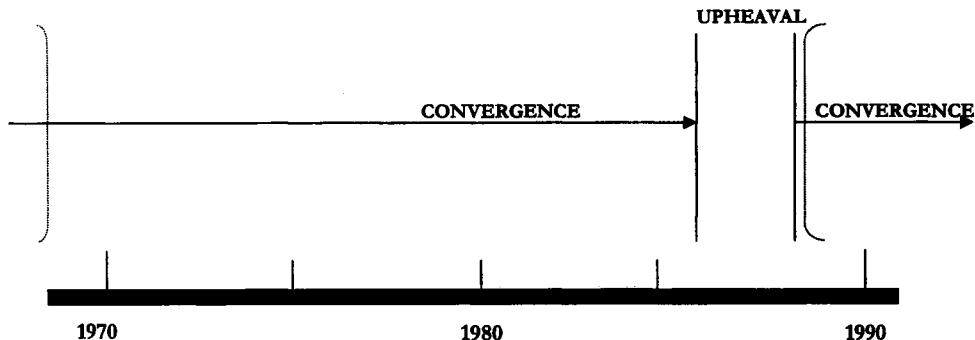


Figure 10.1. The transformation of Alfa-Laval as a punctuated equilibrium.

In the 1986 to 1989 period, there was a formal major reorganization to global product divisions in the firm-specific form of Business Areas in 1986/87, accompanied by new executive titles in the 'American' style where the Business Area managers were prominently represented, and shortly, in the late 1980s, followed by a series of acquisitions that broadened the product range and opened up new and arguably global product markets. Within a two- to three-year period, all three criteria of Romanelli and Tushman (1994) are fulfilled and a transformation arguably thus attained.

A series of important changes in strategy and organization did take place in the time period. However, the possible implications of that identification are somewhat troubling. If the period was interpreted as fully representing the 'globalization' of Alfa-Laval, a discussion on the significant time frame between multi-national and cross-border orientation of international management would be foreclosed.

#### *On the temporal scope of the cross-border integration process*

A basic issue is the length of the transformation process. I will here use earlier empirical studies on the cross-border integration process or a broader look at the research results. The perspective of quantum change indicates that a transformation is (or should be) a rapid affair (Miller and Friesen 1984). The transformation process would consequently be short, although it is not clear exactly how short 'short' is. Operationally, in a cross-sectional study



of strategic change processes in a set of microcomputer firms, a punctuational change was deemed as within a two-year time frame (Romanelli and Tushman 1994).

When interpreting early research on the cross-border integration process, it is difficult to find arguments for a very quick process of globalization. Perlmutter (1969) stresses the intra-organizational difficulties involved in the process towards geocentricity. There may be some time involved as managers perceive their firms as being "...on a route toward geocentrism..." (Perlmutter 1969, p14). The firms may experience a period of change since "...none has reached this [geocentric] state of affairs." (ibid, p14).

Later empirical research has indicated that the change from local to cross-border orientation may be significantly longer than 'short'. Doz and Prahalad (1987) bring together a series of earlier research of the authors in discussing the "*process of strategic redirection*" from national responsiveness to cross-border orientation. They base the discussion upon 16 case studies of this type of transformation, carried out from 1975 and onwards, representing a wide range of industrial settings and US as well as European MNEs. Of a total of 16 case studies reported, the periods of eight completed transformations range from three to ten years, with an average of seven years ( $x=7.12$ ). Of the 16 cases, three were ongoing and five reported as "failures", meaning attempted but not completed transformations. Unfortunately the criteria for pinpointing starting and ending dates are not made entirely clear. Doz and Prahalad (1987) indicate success or failure for each case, but it shows no apparent correlation to the time period in transition.

Similarly, Rolander, Zander and Hedlund (1991) found very long implementation times when studying the introduction of global product divisions in a broad set of Swedish firms. Using the year of the official reorganization into product divisions as a starting point (from Ljunglöf, Rolander and Åman 1980), and the introduction of product line performance measures (including secondary information from Mannheimer and Zander 1983) within major subsidiaries as completion date, the authors found both a wide variation and an unsuspected high average time. Only 8 out of 20 firms completed the implementation within 10 years. Five firms needed 10-15 years, while the remaining 7 needed more than 15 years.

Another set of empirical information from case studies is from the influential studies by Chris Bartlett and Sumantra Ghoshal in the late 1980s (Bartlett and Ghoshal 1989). Interesting information regarding the Dutch company Philips and the Japanese

Matsushita<sup>101</sup> was presented at some length in a series of teaching cases. The case confronts the administrative histories of the two firms effectively showing that both, from almost opposite starting points, attempted what was effectively a cross-border integration of activities from around 1970. Interestingly, as the initial case material leaves the firms in 1990, neither one of them had achieved a focused new 'global' configuration. In the case of Philips, the company had, through, for example, a series of five CEOs, struggled to break the independence of the 'NO's' (national organizations) and to build an integrated international managerial structure from the early 1970s into the 1990s, with considerable issues outstanding at the end of the period.

Also, directly concerned with the transformation of the European operation of Citibank from decentralized to a network, cross-border structure, Malnight (1996) found the temporal scope to be 15 years, from 1979 to 1994.

The Alfa-Laval study presented a relatively unambiguous national orientation of international management practices up until 1968. Domestic changes and largely informal influence of emerging product divisions on the international operations lay the foundation for formal demands for changes to international organization structures and administrative practices from 1979 and on. An unambiguous cross-border orientation was argued to have been achieved by 1988. Over a 20 year long period there were varying degrees of mixed national/cross-border prioritizations that also varied across levels of the firm.

As a conclusion of this piece, the *temporal scope* of the cross-border integration process is difficult to state in general, but may certainly be something different than 'short'. As a consequence, the integration process may not simply be a faceless and quick transportation between distinct structural forms, but a subject unto itself.

#### *Order in the transformation process*

A second issues concerning the transformation process is whether there may be some order in the process. Again, I will use secondary empirical material. A punctuated, revolutionary change is not only a rapid, but also a chaotic affair where the absence of order is disturbing enough to warrant a quick formation of a new form (Miller and Friesen 1984). A longer transformation process than that afforded by the quantum theory allows for some order in the change process.

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<sup>101</sup> HBS Case No 399-102 (1989), and HBS Case No. 9-302-149 (2001). Additonal material in Bartlett and Ghoshal (1989).

Phases of development over a course of organizational transformation have indeed been identified and conceptualized both in generic organizational change literature (Levy and Merry 1986) as well as in a few empirical studies of the globalization of international management (Doz and Prahalad 1987, Malnight 1996).

Staying with the basic logic of the sequential evolution of organization structures, we may first allow for *intermediate solutions*<sup>102</sup>. Chris Bartlett, Yvez Doz and C.K. Prahalad have in a series of efforts (e.g. Bartlett 1979, Doz and Prahalad 1981, Prahalad and Doz 1981, Prahalad and Doz 1987) described a series of intermediary stages, specifically concerned with international management issues. In focus are the opportunities available to firms in the zone from national responsiveness to integrated cross-border behavior. Management processes necessary in multi-national firms facing demands for both international rationalization and for local adaptation are discussed. They conclude that traditional, unidimensional product- or geographic structures were unable to cope with the new demands. The tensions could not be solved through a rigid bureaucratic framework. The authors argue that successful firms shared two characteristics: informal structures, and exercising great care in the quality of the decision process between managers with territorial responsibilities and managers with product responsibilities. The administrative solutions to managing tensions between product and area focus, were grouped into four modes of increasing complexity, depending on the complexity of the business and the frequency of decisions requiring balancing between national demands and competitive pressures. A similar line of thought is resumed in, for example, Prahalad and Doz (1988), where the four modes of management are viewed as intermediate, 'soft', management solutions on the way from the unidimensional approach of product or area focus, to a matrix or multi-focal (Doz 1986) organization. Each stage or mode means more product-area coordination; in the matrix or multi-focal the perspectives are constantly and explicitly balanced. The choice of formal structure and intermediate conflict resolution devices is based on the complexity of the business (perception of managerial diversity) and on the frequency of decisions requiring balancing between national demands and competitive pressures (perception of managerial interdependence).

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<sup>102</sup> Already Chandler (1962) opens up for this possibility (see, for example, the du Pont case (Chandler 1962) and descriptions of committees and industry councils), but does not see these as stable states, but temporary solutions on the route to a higher structural state. That is, in-between temporary solutions when developing from functional to divisionalized organization. Galbraith (1973, 1977) argues from a contingency theory perspective for a number of lateral instruments as options rather than temporary solutions.

Directly concerned with the change of international firms towards cross-border behavior, Doz and Prahalad (1987) proposed a "*process model*" of the redirection, conceptualized from a collected set of case studies. Four sequential phases in the transformation process were identified and labeled incubation, variety generation, power shifts and refocusing respectively. First, during the *incubation* phase, the firm experiences pressures from the combination of changing environmental conditions that favored cross-national coordination, and management systems geared towards national fragmentation. The authors argue that the inertia was substantial, not only in responding through action, but even in perceiving the new demands. Corporate management attention was focused on local rather than global concerns, and individual product managers lacked access and data to influence the state of affairs. Finally, the authors make a strong statement that a new appointment at a senior position was critical for the successful transformation. The purpose of the *variety generation* phase is to establish a cognitive shift in the firm, and ultimately to legitimize the redirection. In this phase of learning, options available to the firm were outlined and discussed. At the end of this phase, formal alterations of accounting and information systems were made. A series of *power shifts* were made, in order to shift decision-making power to facilitate cross-national concerns. A sequence of minor steps was the norm in this phase, rather than major reorganizations. All firms used matrix-type structures that mediated between local and worldwide priorities. The final phase, *refocusing*, involves formal changes to the management systems that legitimize the change process, meaning that the administrative infrastructure: information, planning, budgeting and resource allocation systems were modified in line with the new orientation.

Bartlett and Ghoshal (1989, pp204) make some interesting comments on the sequence of actions taken to move toward the transnational solution. They argue that American firms have a tendency to begin with changes in formal structural arrangements ("*anatomy*")<sup>103</sup>, continue with changes in interpersonal relationships and processes ("*physiology*") later turning toward changes in individual attitudes and mentalities ("*psychology*"). They venture to suggest normatively that the opposite change sequence, or phases in the change process, may be a more fruitful way of achieving change.

With the integration process extended and an order in the change process proposed through the identification of phases, the integration process, again, becomes more than a transport and has lost some of its facelessness. The occurrences during the long and orderly period of strategic change influences the outcome of the process. The change

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<sup>103</sup>See Bartlett (1986) where the medical metaphor was developed.

process is a subject unto itself, not only in temporal scope but also in its processual characteristics.

With this perspective, the distinction between the notions of 'stage' and 'phase' tends to become somewhat blurred. The staircase metaphor with sharp and distinct steps becomes somewhat battered and the steps rounded and less distinct. Even the most ardent evolutionists among the international management researchers (e.g. Bartlett 1979) employ a 'staircase' metaphor when modeling the organizational development of international firms. Bartlett (1979) found that a group of health-care firms had retained their formal international division structures despite significant advances towards a cross-border orientation, and argues that these advances were made in an evolutionary way, rather than through formal reorganization. Bartlett (1979) outlined three distinct, albeit overlapping, phases in the change, each associated with its management mode or decision-making process. First, new management skills and perspectives were developed during which a "*substantive decision management*" mode was used. Second, modifications to the organization structures and systems were made and the decision making-process evolved towards a "*temporary coalition management*". Third, changes in organization climate were made leading towards a "*decision context management*". Overall, the changes were identified as gradual and indicating an evolutionary process of change, where the role of management changed from actual intervention in the decision process to providing a decision context.

Propositions for international management that contain explicit arguments for continuous change and development have been made (Nonaka 1990, Hedlund and Rolander 1990). These propositions are, to a great extent, contextual in the sense that the models, if not contingent upon, at least are inspired by, a business environment of enduring radical change. In this, there are parallels in works that have their empirical foundations in emerging industries (e.g. Brown and Eisenhart 1998).

### *Observations*

Summing up the observations on order in the cross-border integration change process, there are several propositions for a delineation of the above identified extended change process into phases. Consequently, the transformative cross-border integration of international management in the MNC has in earlier research been identified as both extended in time and as ordered.

I think it is safe to say that the propositions for phases have largely been inductively generated, and to varying degrees reflected upon in a conceptual sense.

### **Summary; a reading leaving unresolved but focused issues**

In this chapter I have pursued the idea of a 'revolutionary' change process producing transformation of international management in the established MNC. The propositions of the punctuated equilibrium perspective were confronted with the experience of Alfa-Laval as well as secondary empirical research. The methodology of an example of punctuation research was applied to the experience of Alfa-Laval.

Despite the presence of structural form in international management research and of strong arguments for distinct organizational form for reasons of efficiency, meaning and power (Miller and Mintzberg 1983, Fombrun 1986, 1989), indicating tight coupling and in consequence arguing for a discontinuous, short and chaotic 'quantum' change process leading from one form to another, case study empirical material on cross-border integration transformative processes tends to support a view of transformational change in complex international firms as long and ordered. The transformative change of the cross-border integration process was identified to be of significant *length*. Contrary to propositions of near chaotic revolutions, there may also be significant *order* in these lengthy transformation processes. From empirical studies we may conclude that *transformation periods may certainly be longer than negligible, and not a faceless, disorganized, near-chaotic transport between distinct structural configurations.*

The results casts a shadow on structural alignment theories and their emphasis on 'fit' between structural categories, as well as on their cousin, the punctuated equilibrium theory. If long periods of 'misfit' are tolerated in the firm, we have a problem with the structural arguments for a necessary fit between for example strategy and structure. If long periods of change are the norm, the distinction between change and non-change becomes unclear and calls for a deeper understanding of the character of the transformation process as well as of the structural forms that are assumed to precede and succeed the transformation process. The empirical results are at odds with the outlined nature of the change as rapid and chaotic transitions from configuration to configuration indicated by Miller and Mintzberg (1983) and the similar, and broader in conceptualization, propositions of the punctuated equilibrium (e.g. Tushman and Romanelli 1985). Instead also *radical change in international*

*management in the established MNC may be conceived of as long, relatively incremental and less disruptive than proposed.*

The elegance of the punctuated equilibrium theory lies in the combination of form and change. An efficient and, as a result of institutionalization resilient form, changes through a short and discontinuous jump to another coherent structural configurational form. Also, form is not here an ahistorical, atemporal alignment, but a routinized convergence and fine-tuning of environmental alignment. By logical necessity, grounded in the employment of two distinct change theories, *the two characteristic periods of development appear in sequence*. The inert and resilient nature of form makes convergent continuity the norm, punctuated by short periods of transformative change, whereafter a new convergence begins.

Reading the experience of Alfa-Laval through the glasses of punctuated equilibrium did not provide an explanation of the observed transformation, but helped focus issues and trigger further investigation. Long and ordered transformation points in the direction of an evolutionary change process, but as of yet as residual. A logic behind the evolutionary transformative change process remains to be formulated.





## Chapter 11

# THE TRANSFORMATION; EVOLUTIONARY CYCLE AND LOOSE COUPLING

*Addressing the structural tension: 'the degree of interconnectedness'; loose coupling; loose coupling and gradual change process; divergence and convergence in the transformative cross-border integration process; a discussion on divergence and convergence; an evolutionary globalization process; summary*

The previous chapter employed the perspective of punctuated equilibrium as a point of reference for an interpretation of the transformative cross-border integration of international management in the established MNC. The theory provides a logic for a revolutionary change process based on a consideration of a change in a sequence of periods of convergence and transformation. However, with the conclusions regarding the nature of the cross-border integration process of the already established MNC as long and ordered, the punctuated equilibrium perspective helped in provoking and formulating issues rather than providing answers. Specifically, with the change process as long and ordered, the construction of form as tightly coupled, deeply structured and near unendingly resilient became an obstacle to conceptualizing the mechanisms of change.

In this chapter, I will begin a search for an alternative, evolutionary logic of the transformation process. As an alternative proposition to arguments of organizational form as a resilient and increasingly structurally aligned equilibrium, and change as a short, disruptive punctuation of that equilibrium, this chapter takes as a starting point a reformulation of the 'interconnectedness' of organizational elements through an introduction of the concept of loose coupling (Weick 1976, Orton & Weick 1990). Armed

with the notion of loose coupling and with the addition of a perspective of the processual convergence of form (Fombrun 1986, 1989) the narrated experience of Alfa-Laval is reread. A perspective of an evolutionary cycle of divergence and convergence is proposed, which (partially) emerged as an alternative conceptual coherence between form and change.

### **Addressing the structural tension: 'the degree of interconnectedness'**

After having strongly argued for the necessity of quantum form and quantum change, Miller and Friesen (1984) make an interesting final reflection. They argue that the 'quantum perspective' may be contingent upon seeing the firm as tightly coupled, and that an assumption of loose coupling actually may alter the logic and allow for a different, and possibly evolutionary change sequence. Concerned with organizational inertia and the organizations hierarchical arrangement of inertial forces, Hannan and Freeman (1989,p80), conclude that *"the tighter the coupling between the core and periphery"* the more direct is the applicability of the population ecology theory, which specifies population level selection rather than firm level adaptation largely because of the inability of the individual firm to change at the same pace as the environment. Tight coupling between elements of the organization, or between elements of the international management is a key property of punctuation theories. From the viewpoint of the punctuated equilibrium perspective Romanelli and Tushman (1994) observe that:

*"Competing theories of fundamental transformation appear to embody systematically different assumptions about organizational capacities for change at the subunit level and about the degree of interconnectedness between units."*

The 'degree of interconnectedness' or the nature of coupling between units or organizational elements I believe to be at the core of the argumentation, and to be a possible source of the issues and of the tension identified. The degree of interconnectedness is an underlying factor in how parts, as well as the whole, of the organization react when faced with pressures for change. It is a key property in understanding what I will later call the plasticity of organizations. I will in the following explore the concept of loose coupling and the way in which loose coupling may allow for an alternative conception of form and change.

## Loose coupling

The concept of loose coupling is somewhat 'soft' and elusive, in that both a variety of situations give opportunities for loose coupling and that it may be used as both independent and dependent variable (Weick 1976). Nevertheless, it has great potential in adding to the conceptualization of the international firm and of the internationalization processes. Perhaps it serves best as a metaphor as it needs to be operationalized in order to serve as a research tool (Orton and Weick 1990). The concept of loose coupling entails that:

*"...the coupled events are responsive, but that each event also preserves its own identity and some evidence of its physical or logical separateness." (Weick 1976, p3).*

There have been several vantage points employed in understanding and conveying the meaning of the concept of loose coupling. Two systems that are loosely coupled have few variables in common or share weak variables (Glassman 1973). An instructive point about organizations as loosely coupled systems is the idea of building blocks that may be assembled or 'grafted' onto an organization with relatively little disturbance to either the block or the organization (Weick 1976), and that the blocks may be tightly coupled internally while there is loose coupling between the blocks. Thus the complex organization may be decomposed into 'stable subassemblies' (cf Koestler 1978).

It should be stressed that regarding loose coupling, the 'scale' runs not between tight and loose coupling, but between tight coupling and decoupling, with loose coupling as a range of intermediate options (Orton and Weick 1990). In a transferred meaning, loose coupling represents a mid point in a similar way as network represents an mid way alternative to market and hierarchy. With loose coupling outlined in this way, as analogous to network, some of its metaphorical aloofness dissolves and it becomes somewhat more operational. But then, loose coupling is also a meta-level construct and it must be assumed that parts of an organization may be tightly coupled while some parts are nearly decoupled. All of this is important conceptual pieces in forming a logically coherent understanding of the transformation process of the cross-border integration.

Loose coupling may apply both *internally*, in the relationship between elements of the firm, and externally, in the relationship between the firm (or elements of the firm) and an environment. Trying out an assumption of loose coupling, several features of the international firm and what bonds the parts of the firm may be reconsidered. Typically tasks

of the technical core of value-adding elements are seen as sources of coupling (see Porter 1985) and elements of the management systems are seen as ideally consistent (e.g. Leksell 1981) and thus positions, offices, rewards and punishments etc. are seen as tightly coupled through an authority mechanism (Weick 1976, p4). I think that it is fair to say that there has been an sub-text of regarding tight coupling in these areas as something good and desirable leading to benefits of efficiency (re Miles and Snow 1984).

The later discussion of the properties of the cross-border firm has brought with it elements of loose coupling and occasional propositions that the cross-border firm should indeed be seen as loosely coupled (e.g. Hedlund and Rolander 1990). Often the propositions give a contradictory image (e.g. Bartlett 1986) seemingly reflecting well publicized advice for *"simultaneous loose-tight properties"* (Peters and Waterman 1982, Johnson 1987). This latter use of loose coupling as a dialectic rather than unidimensional characterization of an organization is an important part in the use of the concept (Orton and Weick 1990).

Loose coupling also applies to the organizations boundaries and to its *external relationships*. The line between outer and inner context may be drawn where the corporate management may have an influence or not. Inner contextual factors, such as the production system, may be changed through intra-company decisions, whereas outer contextual factors, such as government policies, are in principle not under the influence of the firm's management. The focus of what I have labeled management systems is on the inner life of the firm. Perhaps one could argue that management systems are the ways in which the management influences behavior in an organization that is under its jurisdiction. In this context, it may be noted that Swedish law regards the board of directors and the managing director as responsible for all activities of the firm, implying a rationalistic view of the firm<sup>104</sup>. Ownership is one important delimitation line, in that the management has a right to alter the structuring of work or change management processes in owned firms and subsidiaries (subject to the legitimacy it can claim vis-à-vis individual employees, labor unions etc.). Delegation of responsibility and authority to incorporated product companies and market companies may be seen as an important aspect of the management system. I have basically used property rights as the limit of the extent of management influence. Operationally, with

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<sup>104</sup> "Styrelsen svarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Finnes verkställande direktör, skall han handha den löpande förvaltningen enligt riktlinjer och anvisningar som styrelsen meddelar. Verkställande direktör får därjämte utan styrelsens bemyndigande vidtaga åtgärder som med hänsyn till omfattningen och arten av bolagets verksamhet är av osedvanlig beskaffenhet eller stor betydelse, om styrelsens beslut ej kan avvaktas utan väsentlig olägenhet för bolagets verksamhet. I sådant fall ska styrelsen så snart möjligt underrättas om åtgärden." (ABL 8 kap, paragraf 6, första stycket).

a managerial perspective on the research issues, the parent company's board of directors is considered as context, while the corporate management committee is part of the management systems.

Property rights, and the ensuing delimitation of firm from environment, is a simplification and simplified assumption of the firms relation to its environment. Also within a rational line of argument, there are several areas where the boundary is fluid, for example when competitive conditions may be influenced by a dominant actor on the market; a situation amply discussed by scholars using an industrial organization framework. Scholars of industrial networks have described situations where ownership may be of less importance for competitive strength than the links in the network, i.e. long-term relations with actors outside the firm's limits in a traditional sense (e.g Hägg and Johansson, ed. 1982, Håkansson, ed. 1982, Hammarkvist et al 1982). From a social psychological perspective environments have been seen as enacted (Weick 1979). Later, the multinational firm has been discussed as being in a rather symbiotic relationship with its environment (Hedlund and Rolander 1990, pp22). Hedlund and Rolander (1990) propose a relationship between the firm and environment which is distinctly different from the structural framework employed for example in structural contingency theory. Instead the heterarchical firm is structured in order to utilize the symbiotic potential in the environment. The environment is largely created by the firm. Reference is made to the notion of enactment (Weick 1979) and the parallel is rather unambiguous although Hedlund and Rolander (1990) in reference to the enactment principle stress the creation of environments.

Organizational activities may be loosely coupled over time. Change in the embedded various analytical categories may require more or less time. With control as effect, the control effect of various change activities varies. For example, a change in reporting requirements on a non-domestic unit has relatively immediate effect on the information flow. A replacement of local managing director of a unit has a longer effect period, whereas the name of the company - for example the Laval in our company - may provide a cultural signal, a link to the foundation of the firm a hundred years away.

### **Loose coupling and gradual change processes**

An assumption of loose coupling paves the way for a conceptualization of an gradual transformation process and distinct organization form. It may be a way to reconcile the

good arguments for structural form and the preoccupation with form in the research field, with the gradual nature of transformational change observed empirically.

A number of points in Weicks (1976) discussion of functions and dysfunctions of loose coupling are concerned with how the organization faces and behaves with respect to change and may be reinterpreted in the light of a change of an international firm from a multinational to a cross-border orientation.

Evolutionary change may be ordered in phases where change occurs in certain aspects of the firm and other parts not immediately affected. Loosely coupled systems have a property that Weick (1976) labels "*selective perpetuation*", i.e. not all parts of the organization need to change at the same time. This property allows for phases in the transformation process. On the other hand, loose coupling as such "*is not selective in what is being perpetuated*" (Weick 1976, p7), and archaic as well as innovative activities may be selected for. National considerations may prevail in parts of the firm when other parts move towards cross-border integration. This property also allows for a political struggle between local and global centers of interest within the firm.

Loose coupling allows for variation in the nature of the change in terms of scope, speed and type of solution sought across levels of the firm. There is considerable room for self-determination by organizational actors. One reason behind this is that the loosely coupled system potentially could retain a greater number of "*mutations and novel solutions*" (Weick 1976, p8) than would be the case with a tightly coupled system.

Globalization of the multinational firm may be seen as the firm's response to a broad environmental change pattern. Possibly, loosely coupled organizations get selected for in a period of externally generated turmoil. The loosely coupled system is geared towards localized adaptation and learning, which combined with the earlier points indicate a possible incremental pattern of more or less coupled individual response on many levels.

If the multinational firm is loosely coupled not only internally but also externally, it may be relatively insensitive to environmental forces as a whole or in parts. This may explain why some Swedish multinationals were found to retain a presumed archaic mother-daughter form (Franko 1976) longer than foreshadowed (Leksell 1981, Hedlund and Åman 1984) and getting away with it. Varying external coupling may also explain differences in 'globalization tempo' between product divisions.

### **Divergence and convergence in the transformative cross-border integration process**

With the basic quality of the change process argued to be evolutionary, under conditions of loose coupling, we may go further and in greater detail discuss the order within the process of transforming international management in the established MNC. This will, somewhat extensively, be presented as a condensed narrative for the cross-border integration process of Alfa-Laval. The process is identified as a cycle of divergence and convergence, where the firm during the divergence increases its range of activities towards a mid point of significant internal structural complexity, followed by a period of convergence towards a new organizational structural configuration. Whereas the first half of the period formed a credible alternative to the national orientation, the second, convergence period, the earlier nationally oriented elements of international management was gradually phased out and a coherent theme of cross-border orientation instituted.

This piece is largely inductive, but on the grounds of a set of important theoretical influences. The first is the above covered concept of loose coupling. Another important piece was the propositions and studies by Charles Fombrun (1986, 1989) that a process of convergence of varying alternative elements over time produces an organizational configuration. If we let ourselves be convinced of the arguments of a convergence process, then it is logical that for the already established firm with an inherited configuration to need to go through a period of divergence in order to furnish the material from which to converge. Hence, a cycle of divergence and convergence could complete the transformative cross-border integration.

The mutual processes of divergence and convergence may be amplified to include the change intensity in a definition of phases. As such, it is a definition of 'managerial' phases in terms of the managerial issues that seems predominant. This has little effect when discussing the divergence phase, but all the more on the process of convergence. This piece is in a sense summing up much of the earlier discussion on the developments, proposing an overall pattern of change for the transformation process. Ultimately, this piece is about finding a rhythm of change and the shifting momentum or pace of the process.

#### *Divergence, convergence and phases of change intensity in Alfa-Laval*

From the early years of the 20<sup>th</sup> century until the late 1960s, the international management structure of Alfa-Laval remained focused on the national foreign subsidiaries. I identified a series of events around 1970 that I called departures. Product sectors were introduced in 1968, whereby the parent company left the near-century-old functional

organization; the functional managers left and from 1971 the parent company managing director Hans Stahle had in Harry Faulkner a deputy who shared responsibility for foreign subsidiaries; concentration to the core businesses continued with divestment of unrelated activities, for example, in 1969 the car body manufacturing in Olofström was sold; with the Danish acquisitions, some non-domestic production units had come under divisional rule; with the ERM in 1970, a new administrative package intended to be internationally standardized had been introduced. With hindsight, and however disconnected, partial or limited in scope these reforms might have seen at the time, the changes together represented major steps away from historical practice and from the pervasive national orientation.

Four phases are distinguishable in the transformation process of Alfa-Laval:

- divergence, 1968 - 1979;
- the matrix pendulum, 1979 - 1984;
- catharsis 1984 - 1986;
- reconfiguration 1986 - 1988.

With a series of changes around 1970, a process of *divergence* had begun<sup>105</sup>. The coherence of the nationally responsive orientation gave way during the 1970s to a situation with several competing claims on the firm's future.

From the initial departures, the 1970s was a decade of different development lines. It was a decade of increasing centralization to the *parent company*, in terms of head office and managing director. We must remember that all the activities in Sweden at this point in time were part of the parent company. It was not until the early 1980s that the product divisions were legally separated from the parent company, and still later that the Swedish market activities organizationally were separated from the parent company. Symbolically the decade started with the adoption of the Greek alfa logotype, added to the Alfa-Laval name

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<sup>105</sup>Although a cross-border orientation is not a virus, the medical term *incubation* may be an apt description of the events during the 1970s. It was used by Doz and Prahalad (1987) in the definition of the first phase in the cross-border transformation. It fruitfully captures the image of new ideas and practices growing and taking hold in the background, perhaps underground. This was partially the case in Alfa-Laval AB. But rather than growing underground and suddenly breaking out, the cross-border notions in Alfa-Laval AB emerged rather visibly as contesting the old structure. Eventually several power bases were distinguishable, which is why divergence captures the processes more aptly.



introduced in 1963, and with the explicit intent of unifying the internationally dispersed activities of the firm. International administrative standardization, with the obvious beneficiary in the parent company, was introduced from 1970 as a result of adoption and evolution of the ERM package. The introduction in 1974 of the early monthly, so called GROSP short economic reports from subsidiaries to parent company is an example of the developments. The parent company also augmented its capacity for central data processing, with successive investments in computer mainframe capacity. Administratively, the firm was treated as one business with increasing uniformity - not always recognizing the growing complexity of the businesses. The parent company in Tumba built central staffs ranging from technology via marketing to long-range planning and business development. Tumba peaked in size in the late 1970s, with more than 10 per cent of the firm's total number of employees in the area. The European companies seem to have been first affected by the changes while the US Lavalco lagged behind and possibly retained a greater autonomy vis-à-vis the Swedish parent company. The parent company organization structure increasingly exhibited a reflection of the rising product diversification, complexity and varying control needs, while means of international integration - administrative - were centralized, formalized and standardized.

Meanwhile the *product divisions* were being formed. During the decade of the 1970s, they were part of the parent company, and in retrospect a vehicle for gaining and centralizing product control, they were largely the result of the systems design strategy and the ensuing need for competence in new areas: production systems design - Food & Dairy, definition of applications - Marine and Power, electronic systems control - Automation. Production was increasingly under divisional control. Over the decade, the divisions consolidated and built managerial capacity, including staffs. From the early examples of factories that were brought into the new format, found in Denmark in the early 1970s, the international production was rationalized towards high value-added items, with the closing down of for example cooling tank production - a production that had been essentially local. In 1978, a set of predominantly domestic product divisions were formed that ultimately were to become the business areas as a result of the 1986 reorganization.

The fairly dramatic organizational changes of the Swedish domestic activities in the parent company, did not initially change or interfere with the *foreign subsidiary structure*, nor its role as primary vehicle for conducting and expanding international business. On the contrary, the subsidiaries in fact consolidated themselves during the 1970s. Managing director Hans Stahle officially acknowledged that the subsidiary structure was a strong marketing organization for the future of the company's broadening product range. The

national companies absorbed the initial expansion of systems, organized local food systems departments with locally employed systems designers, and in general had some very good years in the 1970s. The foreign subsidiaries manifested their national impregnancy in a series of national head office buildings in the late 1970s.

As a consequence of the divergence over the 1970s, an interesting *point of tension* arose towards 1980 with the national principle riding side by side with the cross-border product management ideas. The traditional foreign subsidiaries were carrying the national principle, while the formed product divisions were advocates of a cross-border orientation. Three power structures were in place; the strengthened parent company, the formed product divisions and the consolidated national foreign subsidiaries, all with partially conflicting claims on the company's future. In retrospect, it is like the cliché 'this town is not big enough for the three of us'. The 1980s was to see a resolution of the conflicts through the extended process of convergence to a cross-border configuration.

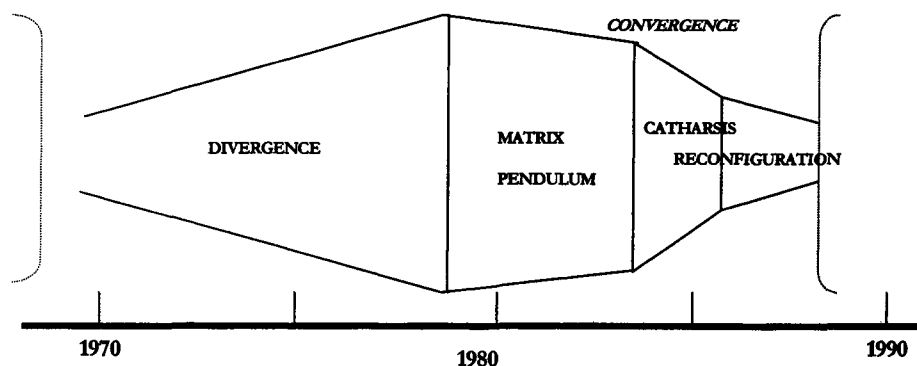


Figure 11.1. The transformation process of Alfa-Laval as a cycle of divergence and convergence.

Following the business group reorganization in 1979 and the changes of managerial positions in 1980, a convergence had begun. The first years from 1979 to 1984 may be contained in the epithet of *matrix pendulum*. During this period of time, the complexity of the nature of the business was matched by a complexity of the operating relationships and of the administration alike. Contradictions are not difficult to find but on a more profound level these are reflections of the divergence period and the options generated. Although a period of facing uncertainty, it was also a period of decentralized sorting out of tensions, of a continuous minor step swing from national to cross-border product

dominance, and, possibly somewhat surprisingly, initially very good profitability (which however at least partially can be attributed to devaluation gains). Although product-country matrices were installed, the reorganization in 1979 may be interpreted as bringing the first signs of a new convergence. The package of changes included the first formal demands for uniform internal organization in the foreign subsidiaries. From that point on, a succession of changes allowed the product divisions to gain access into administrative routines and information flows, into the local operations and to rationalize and restructure the operations on a cross-border basis. That converging process was terminated around 1988, and thereby an extended organizational transformation ended.

In 1979-80 there was a possibly significant shift in several management positions: chairman, MD, the 'new' Industry Group manager, financial manager, technology manager. The parent company management team was reformed - the VL 'Verkställande Ledning', had grown into a committee with functional and product managers present, and with a distributed responsibility for national company matters in the 'governor' structure.

The local-global matrix installed in 1979 may serve as a symbol of the period. Both product and local control was brought to bear on issues, with the parent company as arbiter. The complexity of the business structure, amplified in the managerial structures, is reflected in the complexity of international management and the structure of the firm. As of the business group reorganization, there were many formal organizational levels including two double-tier divisions with intended global scope. Organizational complexity was matched by administrative complexity where the parent company staffs had devised a complex goal configuration for the foreign subsidiaries. A centerpiece of this construction was to counteract upstream-downstream adversities through the so-called credit-back system.

The national companies, now mixed market companies (MMC) approached the parent company through a so-called "governor". Despite the global orientation of the business groups, the MMC manager should be regarded as "king of the country".

The 1979 reform meant that Agri moved formally towards stand-alone status, which it already to an extent had enjoyed. A foreign subsidiary manager blandly commented that: *"Agri was always a different world"*. 1979 was not in personnel terms as dramatic as it formally seemed. The importance was that for the first time, the international management structure was included in the plans.

Although these years exhibit contradictions, it is important to restate that the roles in the matrix shift throughout the existence of this organizational format. Over the period, the domestic organization in a sense was straightened out and the divisions achieve a greater

influence. Several decisions, adjustments and events over these years contributed to the swing from national to product dominance. Decentralization of information systems led to incompatible order handling systems. The incorporation of the industrial product divisions and Agri in 1983 gave the product divisional managers the same title of managing director as their local counterparts.

The parent company puts some distance between itself and the divisions - legally, organizationally and physically - and emerges as a corporate office rather than the traditional parent company. Still however, a corporate all-Alfa idea was manifested in Harry's little blue cultural project of 1984.

The international organization was still in-between. There were significant differences between the divisions: some worked within the existing structure towards international coordination, for example Agri and Thermal. In the course of the entire transformation period, several company-wide structural forms were tried, not the least in the international matrix of the early 1980s. In this context Franko's judgement seems quite prophetic when he comments upon the matrix as "*not a terminal structural paragon but a way station*" (Franko 1976) towards another "*sleeker*" form of international management. In Alfa-Laval, the international matrix was not the final solution to managing its international operations.

Somewhat paradoxically, the early part of the 1980s furnished some 'record years' for the firm's consolidated earnings. Possibly these were the result of rationalizations and devaluations of the Swedish krona, rather than of a focus of the organization. The profitability levels may also have clouded underlying issues. Over these years, many small changes and a shift towards cross-border resolution occurred, but the underlying and inherent complexities, conflicts and contradictions were not clearly resolved.

Perhaps the company needed a triggering event to come through. Profitability plummeted in 1984, and the profitability problems acted as a catalyst and began a sort of *catharsis* - a purifying bath, and the height of the Greek drama. The period lasted from the crash of May 1984 to the declaration of the new, now corporate global product divisionalized organization in 1986.

In late spring 1984 Agri as well as turn-key projects crashed and brought the consolidated profitability to an unexpected low. Nine months earlier, the firm had introduced the Alfa-Laval shares on the London stock exchange and it was in the international limelight that the share price plunged. Taking advantage of the price level was investor Fredrik Lundberg, who bought a substantial share in the Wallenberg stronghold Alfa-Laval. The company now had two almost equal owners. In less than a year, Alfa-Laval management went from record profitability, international stock market introduction and

London spotlight to partial crisis, internal structural issues, media rallies and meeting a new, portfolio investing owner in the board-room.

Undoubtedly, the crash of 1984 brought with it a remaking of existing business and managerial practice. The long-standing internal product development practice gave way to the acquisitions program. The value-adding chains of core components were restructured, and from 1985 and onwards, a series of changes in the management systems rapidly moved the firm towards a cross-border configuration. Still, the effect of the catharsis was an acceleration of ongoing change patterns, rather than a departure in a different direction. The bath washed out the last remains of the national orientation.

With what in retrospect seems like a new meaning and energy, a period of *reconfiguration* took place in 1986 - 1988. Following the period of rethinking, a series or a package of quick changes ensued. The visibility of product divisions had increased. They became business areas and given business strategy responsibility. Acquisitions decisions were delegated to the business areas which exercised the possibility to the full. Thus the diversification practice of the firm changed from constrained to linked which from 1986 and during the rest of the decade led to new and related technologies, brought to the firm new products and markets, new and internationally dispersed centers of competence and to new competitive arenas. The parent company evolved rapidly into a corporate office, more detached from operations than earlier. The "quasi-board" meetings between corporate- and business area-management were established. New periodical reporting practices were introduced using telecom technology.

International reorientation: divisions assumed formal international responsibility and successively formed dedicated market companies. The acquisitions often circumvented the old market company structure. There was a continued and accelerated split of national MMCs into divisional dedicated market companies. The lions share of sales came under direct control of the business areas. Essentially, the yearly budgets in the remaining MMCs were 'pasted' together from the various local business area budgets by 1988. In 1987, international division company culture projects were visible, quite contrary to the corporate wide 'little blue' booklet of 1984. Functional separation accelerated the employment of logistics companies. The organization of holding companies in 1987 created a 'symmetrical' legal structure followed by operational goals and performance measures. The parent company technology staff disappeared in 1989 - a change in the old high-tech firm that should be emphasized as a very clear break with the firm's past.

Through a long and ordered transformative process, the erstwhile national orientation of the firm was replaced with a pervasive cross-border orientation.

## A discussion on divergence and convergence

A strategic change process may not be messy, undecipherable and chaotic. Nor is it necessarily a homogeneous process in the sense that all aspects of the firm change in parallel. All aspects of the firm may not be in a "*furry*"<sup>106</sup> at the same time. There may be an order in the change process, especially in an extended one. The transformation process of international management in Alfa-Laval is such an extended change process where an order is discernible.

A process of organizational divergence is a process away from something, away from a coherent organizational configuration. On one level, it is a period of increasing confusion. It is the deconstruction of an organizational configuration. Inconsistencies and anomalies develop and the theme becomes unfocused. The organizational form is un-formed, while a new has yet to emerge. In the case of Alfa-Laval, a few key events and decisions around 1970 drove the firm from the typecast nationally oriented structure with parent company and foreign subsidiaries as the main protagonists. Elements of a different, across-border nature were entering. The development did not immediately lead towards a new configuration but presented both new foci and structural inconsistencies. The new orientation had to find its organizational form and clout in order to challenge the previously existing one. A new type of office, the output-oriented product division, was created and defined, and a series of product divisions were formed and reformed during the 1970s. The developments over the decade went on along several contradictory, i.e. diverging, lines. Not only were the product divisions built up, but also the foreign subsidiaries and the parent company head office.

Rather than seeing the period as one of bewilderment, I see the interpretation to bring forth as one of developments focused around building alternatives to the inherited national orientation. The key process was one of building strategic and organizational options. In parallel with the national, local units that remained in operation throughout the divergence period over the 1970s, a capacity to effectively manage cross-border issues was built in the form of product divisions. A third alternative line was the significant powers centered around the parent company, even physically in Tumba, and as the partially unrelated systems design operations. As a result the company had built a significant repertoire of

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<sup>106</sup>Recall Miller and Mintzberg's (1983) discussion of the nature of change as a transition in the quantum perspective on organizations.

options over a ten year period, where the major set was the possibilities of the cross-border capabilities.

The 1986 shift in business development pattern in Alfa-Laval was more a release than an example of instigated change. The corporate management did not have to implement the separate Business Area strategies and acquisitions programs in any classic sense. The Business Areas were themselves driving the business development, with corporate management coordinating and providing the conditions for successful business development.

There is a 'visible hand' in the Alfa-Laval case, evident in how control was centralized. First, the ethnocentric backlash successively put more native Swedes in central decision making positions from the mid 1970s to the mid 1980s. The new management cadre of divisional managers was almost exclusively Swedish, while the earlier top management group consisting of foreign subsidiary managers *de facto* was marginalized. Key restructuring work in foreign subsidiaries in the 1980s was carried out by native Swedes (e.g. Ragnar Beyer in the US, Björn Fagerström in the UK). Second, the technological initiative had shifted back to Swedish units and made the foreign subsidiaries dependent on the parent company. Third, administrative reforms such as the internationally standardized management information systems package of the ERM, introduced in 1970, coupled with demands for standardized organization structures increased the transparency and corporate managements power. The early to mid 1980s reformed and centralized financial control instruments including international coordination through internal bank and central treasury added to the corporate managers tools. Sketchingly summarized, the developments provided increasing technological, administrative as well as ethnic centralization from the mid 1970s through the mid 1980s. There is, interestingly, a sharp break in this line of development from 1986. With the Business Area reform came a new decentralization of technological initiative and a sharp increase in non-Swedish managers in what I have called a partial or decentral geocentrism. Although the operative responsibility was decentralized, that operative responsibility was separated from financial items in 1988 and through national holding companies the financial centralization was reinforced.

The processes of divergence and convergence need not be discreet, but overlapping. In fact, the process of convergence may well be seen as starting with the first signs of a divergence. In the case of Alfa-Laval, the indicator of a divergence - the formation of sectors in the parent company - is of course the seed from which the new organizational theme would grow, and as such could possibly be interpreted as the very beginning of the convergence. However, the product sectors at this point in time - 1968 - was rather an

anomaly in an overwhelmingly national orientation, not the sign of a convergence. Instead the divergence continued throughout the 1970s, with increasing contestation between national and product prioritizations. With the full line of product divisions formed in 1978, there had emerged one organizational actor owning the technology, and one still in control of the markets, with overlapping and conflicting interests in a number of activities. The response to this situation became the business group organization of 1979, which incorporated a product/country matrix within the business groups.

The second half of the transformation period was a period of convergence. A period of convergence is a period of forming a configuration, a period of structuring. The first phase of the convergence was the period with an international matrix. The matrix was a temporary solution and a process. The matrix allowed for decentralized fora for working out global-local conflicts of interest. It was never a stable 50-50 partition of influence, but is best seen as a pendulum slowly swinging over from national dominance to cross-border dominance.

### *Catharsis, crisis and triggers*

What drives the transformation as a whole? What shapes the process of the transformation? Does the change process shape the outcome? An issue with bearing on the Alfa-Laval case is what causes the transformation to begin. Does it take a crisis, where the organization as a whole is threatened? If not, what triggered the transformation? Gersick (1991) spends some energy on the issue from a punctuated equilibrium perspective, with the ultimate and rather elegant formulation being that the resilient system runs up against "...puzzles that the paradigm was never equipped to solve" (Gersick 1991, p21). The sources of this development, says Gersick (1991), can be manifold, but internal as well as external. The internal or external shifts create the need, but is still not sufficient as an explanation. Gersick's (1991) discussion of the start revolves around the idea of a systems failure, where the failures of the present are substantial enough to produce the energy required to break the systems inertia.

Applying, somewhat speculatively, the discussion to Alfa-Laval, and thus to a context of large-scale change in a big and complex organizational entity, we may see 'globalization' as a greatly unknown phenomenon clearly outside of the once pervasive nationally oriented structure. And, not only are the puzzles difficult to solve, they are unidentifiable. Furthermore, once identified somewhere in the organization, even the identification and



formulation of the issue are likely to be opposed. Merely putting a systems-threatening issue of the magnitude that 'globalization' was to the established MNC on the agenda was likely to be opposed. A related issue is where change would come from within the firm. Vernon (1979) made some very insightful remarks of a cognitive-political perspective in arguing that the impetus of change in the form of the globalization of the established MNC can never come from the foreign subsidiaries. They have neither the perspective nor benefits to reap from the process.

In the case of Alfa-Laval, the transformation began to be manifested almost imperceptibly, by practical, day to day issues. A reorganization within the parent company, a single organizational reallocation of an acquired company, etc., provided the first steps, followed by mundane processes of inventory rationalization and capital turnover calculations. During this period, the earlier international management structure was intact.

A process of divergence makes managerial sense in the form of a risk reduction when facing uncertainty. One of the challenges for executive management is to maintain short-term efficiency and results while simultaneously providing conditions for change. Malnight (1996) argues in the Citibank study that each step in the process maintained short-term alignment and short-term efficiencies. Extending that argument, the managers may be seen as muddling through (Lindblom 1959), and quite conservatively avoiding risks by attending to immediate inefficiencies, restoring short-term efficiency. The situation for Alfa-Laval around 1970 was one of great reliance on the traditional structure, but of great uncertainty when it came to the possibilities of the product 'sectors', turned divisions.

This form of change process also makes space and time for building relevant and pertinent competence. - specifically, to train and build a cross-border management capability.

'The crash of '84' must be interpreted in this context. Although the firm on a corporate level never exhibited a loss, the events of 1984 nevertheless certainly qualify as a crisis. With the sales of Agri coming to a near standstill from the month of May and the effects reverberating throughout the firm, it was a serious situation. But in the course of developments, it is more aptly called a precipitating event rather than a crisis. The 1984 events provided the ultimate driving force for shedding the last remains of the national organizations, and functioned as a trigger. The events did not throw the firm into another direction of development, but speeded up a process already under way. It also led to a fundamental selection process, where the global product divisions became the dominant route forward and other activities were formally opted out. The process now became explicit, whereas the changes within the matrix format of the early 1980s had been implicit

or taken place under a veil. Formal decisions to make cross-border integration the only route forward were taken. Thus the partially emergent strategic shift now became public, explicit and formal.

### **An evolutionary globalization process**

A fundamental research issue of the study concerns the nature of the transformation process. The emerging characterization of the transformation process can now be stated. The transformation process perspective generates several questions regarding the nature of the change process: what is the scope of the transformation? How do we define the beginning and end of the process? How long may the process be? What is the nature of the transformation process: are there identifiable phases in the change? Are there other ways of seeking order in the change? Are there iterative elements? The aim of this piece is to summarize observations so far.

It is a transformation process that is *lodged in the long-term development of the firm*. The cross-border transformation process grew out of the history of the firm. The biographical, long-term outlook showed that the firm adhered well to the fundamental development model, but with a different timing of events. The placement in time, the nature of the transformation process as well as the extended temporal scope must be seen from the perspective of the history and characteristics of the firm to be understandable.

The cross-border integration was *a long process* of change. The temporal scope of the transformation process was 20 years in duration, with identifiable, although judgemental, beginning and ending points. A fundamental change in the international organization of firms requires a considerable period of time.

The transformation process was, as a whole, relatively *ordered*, with distinguishable phases of *varying change intensity*. It was not a disruptive or discontinuous process or chaotic process over the long haul. This is not saying that there were not trying episodes for the people involved, nor saying that the order present in this ex post version of the story was visible at the time, from the inside. The most fundamental point regarding the nature of the cross-border integration process of Alfa-Laval is the *cycle of divergence and convergence* that envelops the change process. The divergence phase provided a greater range of options for the firm. Specifically, a cross-border management and operations capability emerged in the form of product divisions, alongside the national foreign subsidiaries that remained formally unscathed all through the 1970s. A third range of options was provided around the

growing centralized power of the Swedish parent company. The period of convergence as a whole provided a process of focusing on the new dominant organizational theme which was to be the cross-border integrated activities of the product divisions. The convergence period may be delineated into three phases: the matrix pendulum 1979–1984, catharsis 1984–1986, reconfiguration 1986–1988.

The change process was ongoing and more or less *continuous*. The Alfa-Laval case shows a great number of almost continuous changes in the management systems from the end of the 1970s, to 1990. Possibly one could argue that the changes towards cross-border operations and management were *accelerating* through the period studied.

As a whole, the transformation process should be seen as *incremental*; the changes gradually reached further into more and more aspects of the mode of international organization. From a role of being almost the equal to the parent company, an affiliated-, semi-autonomous company, headed by a generalist, the foreign subsidiary bit by bit lost control over technology development and value-adding activities, which instead became coordinated on a cross-border basis. One may argue that the development of a firms structure and management systems should generally be seen as a continuous development, rather than as a stepwise function. This work points at the continuous nature of firms' change; the constant of change. Similarly, Doz and Prahalad (1987) argue that the cross-border 'redirection' takes place in a series of relatively minor steps, and not through rapid comprehensive restructuring. There is an *additive*, or rather, *iterative*, element to the change process in that many fields of activity were the focus of recurring cycles of restructuring and change, e.g. the production facility structure.

The transformation process should well be seen as composed of *multi-layered processes*; multi-layered processes that together make up the whole transformation process of the firm. There is significant *variation* in character between the multi-layered processes. Both the scope and the nature of the process of change vary by element of the management systems. For example, the timing of the change varies by product/market area, the timing of change varies by broad categories of systems, and the length of change period varies depending of which aspect of the firm one studies. Both the scope and the nature of the process of change vary by element of the management systems. The transformation was achieved conserving and building internal management capacity in the parent company and divisions, while significant rotation was made of managers among foreign subsidiaries. Any one change sequenced along a conceptual track can fruitfully be understood as *contextually embedded*. Changes in any specific management system element should be seen in interplay with the context; as contextually determined. For example, informal change preceded

change to formal aspects of the management systems, change to basic production processes preceded the formal change to the international role.

Another interpretation one may offer is that the process was largely *emergent* (Mintzberg 1978), rather than the result of intent or a plan.

With the elements stated, an overall characterization of the process of transformation of the international management of Alfa-Laval is that it was an *evolutionary* change process: long, ordered, layered, incremental, iterative, additive. The revolution in content was achieved by an evolutionary change process.

## Summary

This chapter approached the wanting logic of a gradual transformation process. Specifically, it was triggered by a structural issue that emanated from the earlier punctuated equilibrium-driven reading of the narrative: the nature of the Alfa-Laval cross-border transformation process was very difficult to make sense of with a 'quantum' assumption of tight coupling. It was difficult to reconcile the quantum view on organizational form and the long and ordered processes generated from the empirical material - Alfa-Laval as well as secondary material. The change patterns inferred point to an evolutionary change process. Radical change in the content of international management was the result of an evolutionary change process.

The initial drive of this chapter was to return to issues of 'the degree of interconnectedness' of organizational elements in order to establish an alternative viewpoint as regards form and change. The degree of interconnectedness between organizational elements was identified as the possible source of the argumentative differences, and the concept of loose coupling was studied as a source of reconciliation.

An assumption of loose coupling, structurally and over time, allowed for the transformation pattern identified. Loose coupling allows for such things as selective and varying response to change pressures, partial inertia, and multi-layered, contextually embedded and very local change patterns. As a consequence, *loose coupling is an essential part in making sense of the transformation process in Alfa-Laval.*

Additional pieces of theory on the formation of form through a period of convergence (Fombrun 1986, 1989) was brought in and led to a discussion of *the change process as a cycle of divergence and convergence, with phases of different change intensity.*

In this chapter, I have argued that the revolutionary period of a cross-border integration may be long and ordered, multi-layered and iterative. It is an evolutionary process. This observation is not only of the Alfa-Laval material but holds for a broader empirical base of case studies. I have argued that the nature of the change process may be seen as a cycle of divergence and convergence. The *divergence is a period of creation of strategic options* for the firm, and the convergence a period of selection and retention. Through such a process, the organization can, first, in relative calm create the potential for a different future structure. Subsequently, the new structure may be selected for in a process that depends both on decentralized decision-making and centralized broader, and more visible, actions. It may be necessary in the course of the process to break inertia through a triggering event, such as a minor crisis situation. Eventually, the remains of the old structure are phased out and new elements introduced in a conclusion of the divergence and convergence cycle.

With the pieces of theory brought in, a logic for the evolutionary transformation of international management in the established MNC was emerging. A certain coherence between form (loosely coupled) and change process (evolutionary) was attained. However, I felt a need to solidify the conceptual base. The next chapter will look into organizational evolution theory.



## Chapter 12

### THE TRANSFORMATION; AN ORGANIZATIONAL EVOLUTION PERSPECTIVE

*Evolution as borrowed metaphor; an organizational evolution perspective on Alfa-Laval; summary*

In the previous chapter, based on an import of theory and a new reading of the narrated account of the cross-border integration process of international management in Alfa-Laval, the process of transforming international management in the established MNC was conceptualized. Theoretically, the implications of the loose coupling metaphor provided a reconceptualization of the 'degree of interconnectedness' between structural elements, and a view of the making of the international management form as a process of convergence opened up for a revision of the transformation change process. Loose coupling allows for iterative, partial, local and varying change processes to interact in the production of an incremental, gradual change. The production of structure through a period of convergence allows for a conceptualization of a transformation process as a cycle of divergence and convergence. With these specifications, I argued that the transformation of international management in the MNC may be characterized as an evolutionary change process. The radical change in content may be produced through an extended evolutionary change process.

In order to ameliorate the understanding of the evolutionary logic, or the mechanisms (Clark 1999, Tsoukas 1994) of the observed and now conceptualized transformative change process, an organizational evolution theory perspective will be applied in this chapter. Based on that perspective, the Alfa-Laval text will again be read and conclusions

drawn concerning the process of transforming international management in the established MNC.

### Evolution as borrowed metaphor

There are some hazards with informing ourselves through the use of analogy. In this case, the analogy of 'evolution' is imported from biology in our attempt to formulate a position on the transformative change of the socio-cultural system of international management.

One way of formulating the hazard is that the analogy may be made by either importing a model or importing a metaphor. Using a model, we would import the model as it is, employing the analogy directly, disregarding any variation in the assumptions underlying the model in diverse fields. We "*consciously and systematically apply the explanation of one series of events to another very different series of events...*" (Penrose 1953, p807) One recently popularized example of such use of analogy is the arguments that leaders in traditional industry should import the managerial mode of the theater world as a model (Pine and Gilmore 1999), in order to be better producers of immaterial value. Another example, perhaps more pertinent to this discussion, is the field of population ecology (Hannan and Freeman 1977) where populations of organizations are studied through the use of concepts from biology, for example in 'birth and death' frequency counts (e.g. Pennings 1988). In an early brilliant critique of this way of directly importing biological analogy, Edith Penrose (1953), argues initially for the relatively obvious that there is no 'natural' death cause among organizations. Consequently, she argues against uncritical use in organizational studies of the 'life-cycle' biological analogy. A realist position bars against uncritical transfer of models across fields of knowledge, based on the different ontologies involved (Clark 1999).

I prefer the use of the biological analogy of 'evolution' as a metaphor. Metaphor is here used as a device for framing our seeing (e.g. Morgan 1986), gaining insight from the likeness of things, but not implying the sameness of things. The notion of a metaphor brings a more creative stance, but also, similarly to the metaphorical notion of loose coupling, the need to qualify our use of the term evolution; as a metaphor the term risks becoming relatively empty, non committed and not 'testable'. However, a metaphor is not only "*...used to add a picturesque note to an otherwise dull analysis...*" (Penrose 1953, p807), but a means to understand one element in terms of another (Morgan 1986, p13). It implies a way of thinking and seeing, while being admittedly partial. Evolution in social systems is distinct



from that of biological systems, but the study of social systems may be inspired by the biological analogy.

### *Applicability*

With a reading from biology, the research issue of this study becomes the process of development of a new 'species' where the 'species' is a new mode of international management, found in an organizational form with the underlying organizational principle of cross-border integration. The key issue of interest is how this new form develops. On the firm level, the issue is one of adaptation to new circumstances, while the unit of selection is the intra-firm mode of international management.

Organizational evolution in the generalized form of organization ecology (Hannan and Freeman 1989), is a wide notion that covers areas significantly beyond the research issues here (e.g. Baum and Singh 1994, Baum and McKelvey 1999). Widely held, March (1994) concludes that the research on organizational evolution has moved from output conceptions to process conceptions, where conceptions of evolutionary processes as efficient have turned to discussing their inefficiencies, and from history prediction to history engineering.

Starting with population ecology, a discontinuous environmental change is argued to present pressures for change (Hannan and Freeman 1977, 1989). With the organizational form as predominantly inert (Hannan and Freeman 1989) the primary level of adaptation to new circumstances lies at the population level and makes the population level the target for studies. The existing range of forms are adapted to the existing circumstance of the business environment and the most likely response is selection by 'death'. The alternative forms adapted to new environmental circumstances is likely to arrive by newcomers (Hannan and Freeman 1989).

The alternative to population level selection is adaptation on the level of the singular firm (Hannan and Freeman 1977, 1989). The critical assumption here is that the firm does have the capacity to change through an internal process. Through the internal adaptation the firm is transformed to an alignment with the new environmental conditions. The issue of this thesis is the nature of this internal transformational process of change. I have outlined two basic options. The first option is the revolutionary punctuation change where the firm quickly and dramatically goes through a discontinuous change, and through a short period

of 'upheaval' forms a new alignment. The second option is an incremental, evolutionary change process that is long, ordered and nondisruptive.

Key in distinguishing between the two is the nature of organizational form in responding to pressures for change. If the form is deemed inert and resilient, the resulting change process must be quick and discontinuous. An evolutionary process rests upon the plasticity of organizational form.

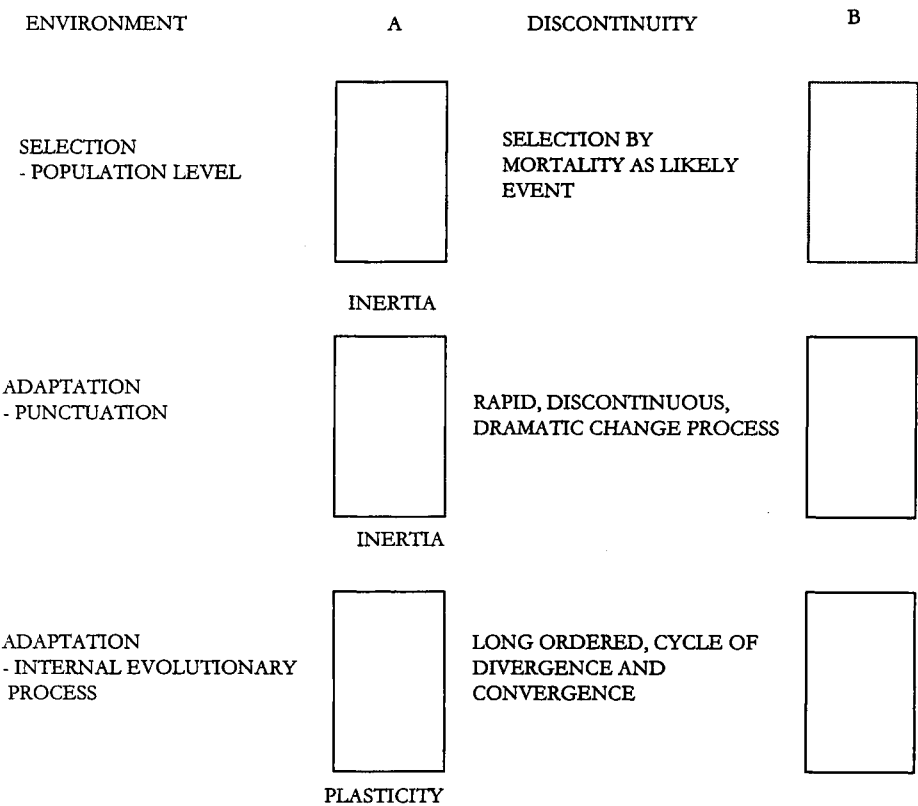


Figure 12.1. Evolution and change perspectives.

An intriguing use of the evolutionary perspective, explicitly brought in as a metaphor, lies in sensemaking (Weick 1979, 1995), which builds explicitly on a perspective of evolution of social behavior (Campbell 1965) that reinterprets the basic model of natural selection (Darwin 1872) for use in a human social context. Weick (1979) builds very closely on the

variation, selection, retention cycle of Darwinistic evolutionary processes, with the key conceptual difference in the variation generation.

Biological models deal with a material world of plants, animals and genes. The social circumstance deals with an intellectual world where the human language enables us to test ideas and to accept (select for) or to kill our darlings (select from) while abstract, rather than producing offspring to face an uncertain fate depending on their capacity to physically survive in a competitive environment and to have the survivors sending their better genes to the next generation.

An interesting feature when studying the results of practitioners' work, such as in the Alfa-Laval case, is that *the processes being studied are partly abstract and partly material*. The decision-making, or forming, processes, whether intellectual and analytical or emotional and anarchic, are abstract and subject to treatment within language and reflection. Assuming some form and level of rationality this reflective thinking is very different from trial and error of natural selection. The ontologies are different. Abstract thinking represents a potential for quicker processes of 'species' generation, partly because new variants may be created and selected while abstract. But the practitioners' aim is to launch the product of the decision-making process into the realm of the material and competitive. Consequently, we should assume a context dependent stance as to both variation mechanisms as well as selection processes.

Another point of importance is that Darwin's evolution is not a model of progress, but a model of change. There is no material or moral justification of evolutionary change as leading to progress in the form of 'higher' states. It is a simple proposition regarding the process of adaptation to (new) environmental circumstances, through which a form (species) emerges from an earlier form. Thus, a conceptual separation of 'change' from 'progress' seems a reasonable caution, also in organizational research. In organization transformation research there is sometimes (see chapter 9) an implicit or explicit (Perlmutter 1969), sometimes graphical (Greiner 1972), assumption of development leading up a staircase to ever higher states. The development of international management in the face of globalization as pictured in the integration responsiveness grid easily assumes a higher ground aura in the propositions for the paradoxical, structurally complex and dynamic managerial solutions. There are few empirical studies identifying and arguing for the international management modes moving back and forth, or oscillating (Zander 1994) between decentralized local orientation and centralized activities.

Finally, the evolutionary process is ongoing, never-ending. The trying, testing, accepting and rejecting of the evolutionary process is always going on. Indeed, one of the

fundamental tenets of a processual perspective is that there is 'a past, a present and a future' also in organizational life (Pettigrew 1985a).

On the whole, the organizational evolution perspective continues and extends the thinking from the processual perspective developed as a working assumption of this study (see Methodology) and offers a potential for firming the conceptual structure.

### *Seeking inspiration in the metaphor of evolution*

Leaving divine intervention and creation behind, the biological models of evolution do not rest with Charles Darwin (1872) but also carry an important older model from Lamarck (1809). Lamarck posited that acquired properties could be inherited; i.e. that training and learning matter, and can be passed on to future generations. Lamarck (1809) formulated two 'laws' that he held to govern the ascent of life to higher stages: first, that organs are improved with repeated use and weakened by disuse; second, that such environmentally determined acquisitions or losses of organs 'are preserved by reproduction to the new individuals which arise'. Thus, in a recurrently cited example, the forelegs and neck of giraffes have become lengthened through their habit of browsing. With the advent of genetics in the 20<sup>th</sup> century, later research came to refute Lamarck's position in the field of biology<sup>107</sup>. Lamarck's inheritance of acquired traits has become marginalized in biology. However, in socio-cultural contexts the argument that learned and habituated traits of organizations can be passed on is hardly controversial. Large parts of organization theory celebrates organizational learning, which is collective rather than individual, also in later normative works (e.g. Senge 1990) while the social psychological process underlying organizational learning to a great extent seems to have been influenced by the logic of Darwin's propositions (Weick 1979, 1995). There is a considerable tradition of how organizational worlds become inter-subjective realities, constructed, passed on and reconstructed through social psychological processes (Berger and Luckmann 1967). In line with the argumentation above, we cannot bluntly import the biological model of development, be it Lamarckian or Darwinian, but should explore assumptions of the original model and of the receiving system; in this particular case the social organization of the MNC. If not, we reduce the socio-cultural sphere to biologism. I think it is important to draw a sharp line between transferring models of biological evolution, and seeking inspiration from those particular models for better understanding of social systems.

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<sup>107</sup> With the exception of soviet Russia where 'Lysenkoism' carried on the tradition into the 1960s.

Organizational evolution theory has somewhat eclectically made use of, and allowed itself to be inspired by, both Darwinian and Lamarckian arguments. The classic Darwinian model of the evolution of a new species in a biological context, builds on an adaptation to new environmental circumstances through a process of variation, selection and retention. The initial phase is one of generating variants to the dominant form. In the classic biological arguments, this is achieved through random mutations. There is no order or direction of the variation generation. The second phase, the selection, is therefore the key. By eliminating through competition (trial and error) the variants non-fit to the existing circumstances, or less well adapted than other variants, the process leads to one species being retained as dominant; hence we have arrived at the retention phase. The evolutionary process is 'natural' in that there are no intervening forces guiding or controlling the evolution. There are simply mutations that offer alternatives and elimination (death) of the less adapted forms, and competition as an 'invisible hand' in the evolution.

The first of the processes in the model to be addressed is that of *variation* generation in a socio-cultural context. Where the biological world, with Darwin, has been argued to function with a mechanism of blind variation, that mechanism cannot easily be argued to be the case in social systems. On the contrary, organizations are full of people deliberately trying to change the system with the explicit aim of improving the functioning of the system (the actual results of these intervening actions are another matter). It is more like the situation portrayed in the first chapter of 'On the Origin of Species' (Darwin 1862) where the author discusses the possible effects of the purposeful activity of the human being as a breeder.

In order for any development to take place there must emerge new options for the future; there must be variation. Variation in social systems, argues Weick (1979), takes place in a process that acts out new ideas. Variation is 'enacted', and in that form communicated and becomes subject to selection mechanisms. Thus, enactment is to social systems what variation is to biological systems.

The Darwinian model argues for incremental patterns of change. A key point of contention in incrementalism is how micro-processes of variation-selection-retention combine into macro-processes of species generation.

One intriguing point about how the enacted variants need to be developed in a process that takes time, into a form where they represent a genuine option, not just a passing whim or a coffee break remark.

*"If mutations occur too frequently or are too short-lived, they'll get lost in the process of natural selection. Thus it is not routine for all variations that 'represent an improvement' to be selectively retained. Instead it may only be those mutations that are stabilized long enough to acquire some level of feasibility or credibility for sluggish selection to occur that have any chance of being retained."* Weick (1979, p129)

Weick's language here is so close to the biological world that we risk being confused that we are back with Darwin's pigeons, but it formulates well the basic idea that the emergence of a credible alternative with some success potential takes time, with addition of the somewhat uncomfortable piece that 'improvement' is not enough to be selected for. The latter point has a parallel, very interesting discussion in pieces on technological innovation processes (e.g. Tushman and Andersson, 1986, Rosenkopf and Tushman 1994), where the context of the community, for partially politicized reasons of power, is argued to be an essential part in the production of dominant designs.

*Selection* in a socio-cultural context is a very complex matter. Broadly, it may range from the subconscious self-censorship to corporate-wide and board level formal decisions such as acquisitions or divestments. In his great work on micro-processes of selection, Karl Weick (1979, p175) defines selection as meaning *"...selecting some interpretation of the world and some extrapolations from that interpretation and then using these summaries as constraints on subsequent acting"*. After having conferred with Buckley (1967) that the selection process 'is one of the most difficult to understand about natural selection', he likens the selection process to a black box. Input is what has worked in the past combined with new information. Output is *"an enacted environment and a moderately stable interpretation of what the person has recently been up to"* (Weick 1979, p175).

*Retention* is a process based on established routines for the replication of status quo. Campbell (e.g. Campbell 1965) has used the term *"retention-propagation"*, which is indicative of the notion that 'retention' contains two paradoxical qualities. First, in the retention aspect, the process is converging (Tushman, Newman and Romanelli 1986), maybe restricting and possibly even petrifying. A quality that may be the source of anomalies in the face of exogenous environmental change and behind such proposition as strategic drift (Johnson 1987), whereby an organization slowly loses contact with and legitimacy from its external context. An intriguing feature is the importance of some retention processes in guiding what is observed and what is brought to the agenda. It has been argued that there are pre-selective features narrowing the field of perception (Lindqvist, 2001). while it has also been argued that we behave like the cat on the stove (Denrell & March).

Second, retention is also propagation. It implies driving along a chosen road; it is propulsive. In normative literature leaning on structural alignment propositions, this latter property is a recurring theme (e.g. Miles and Snow 1984). Also, as we saw earlier, with the punctuated equilibrium perspective in general, one sees structurally aligned, tightly coupled organizational elements as materially efficient and socially producing meaning.

### **An organizational evolution perspective on Alfa-Laval**

Looking back on the long-term evolution of international management in Alfa-Laval, there was a limited number of variants of international management used by the firm over the years. The initial expansion through a network of agents should be mentioned as an international management structure obviously well adapted to needs of the young 'hi tech' firm seeking quick international expansion. The management was looking for markets, not sourcing. But that mode of international management was a singular dominant orientation for no more than around a decade, as green field investments, and acquisitions were already being made in the 1890s, and by the advent of the First World War, sales and production subsidiaries were in place in most important markets. As a whole, the international establishment process was relatively extended, stretching from the early 1880s, soon after the foundation of the company, to 1914. The resulting nationally responsive structure of relatively self-contained foreign subsidiaries was seemingly typical of the European patterns of historical evolution of the MNC (Franko 1976, Chandler 1990), and parallel to other firm histories such as that of Philips (Bartlett and Ghoshal 1989). The multi-national managerial structure was reinforced by events such as the Second World War and remained the almost singular international management frame into the 1970s. In the history of Alfa-Laval as an independent company, the cross-border integration that followed, and that has been portrayed in this study, was the one radical transformation of international management of the mature, internationally established company.

#### *The evolutionary cycle of cross-border integration at Alfa-Laval*

The first issue to be addressed is simply the 'how' of the change, clad in the language of organizational evolution. The fundamental issue of adaptation here is at the firm level, as 'international management' in an established European MNC, and with the broad definition of the term developed earlier (see Methodology) is very nearly equal to the

management of the firm. The unit of selection is mode of international management, seen through the looking glass of the integration/responsiveness framework. Specifically, we are interested in the process of selection of an integrated mode of international management, in an MNC that had a long history of nationally responsive management, thus producing an adaptation of the international management of the firm to a business environment where pressures for cross-border behavior were mounting.

The first phase, the period from 1968 through 1978 may be seen as a process of variation through *enactment* of alternatives to the existing dominant form of international management - the national foreign subsidiaries. I have elsewhere argued that there were two major directions in this development of alternatives. Firstly, the formation of product divisions grew to be a major and feasible alternative to the nationally oriented international management mode with national foreign subsidiaries. Secondly, in addition, there were initiatives taken on a corporate level in the form of larger investments or acquisitions. These were placed outside of the inherited subsidiary structure and represented alternatives of international management, but as acquired rather than organically developed, delivered another kind of challenge to the established structure; stronger in kind as already formed international businesses, while weaker as they represented activities in separate 'niches'.

On a firm level the development, or enactment, of the product divisions as an alternative course of action was an extended process. From the first formal creation of 'sectors' in 1968 to the full line of product divisions in 1978, the process stretched over a decade. The process has been described at length elsewhere, but we should here note the significant iterations and the many small steps, the 'meandering', that made up the organizational development process.

The development of alternatives to the inherited organizational form was parallel to strong retention mechanisms in the form of the continued basic international management principle of national responsiveness. The simultaneous occurrence of variation and retention is of interest, as "*The variation and the retention systems are inherently at odds.*" (Campbell 1965, p306). As developed earlier, this nationally oriented organizing principle was established in the early years of the 20<sup>th</sup> century and the national subsidiaries continued over the 1970s to be the main organizing vehicle of international affairs. In fact, the foreign subsidiaries were in some important respects strengthened over the 1970s - both materially, with such activities as investments in local information systems or logistics systems, and symbolically. In the major countries, the local activities were centralized and co-located in highly symbolic new headquarters buildings. The 'Alfa Tower' in London, the new offices



in Glinda outside Hamburg, and the New Jersey relocation in the US were all part of this glass, steel and concrete manifestation of retention.

With the continued importance of the national organizations, there was considerable path dependency (Nelson & Winter 1982). In understanding the process of change, it is of essence to note that there was no sudden change of 'path' but that the alternative route developed over a period of time while the inherited way was still trodden.

The retention of the national orientation was a firm level, company-wide phenomenon. It was how the firm was managed. From a cultural point of view, it was very close to what the firm was. The alternative international managerial structure was developed largely in the Swedish organization, and to a not insignificant degree, in Lund. Thus the enactment was, initially, a very local activity. It is almost like the new sibling was put in an incubator<sup>108</sup>.

Increasing the level of magnification, the international management alternative to product divisions was developed through a series of interlocking sensemaking cycles (Weick 1995). Such a perspective sheds light on the iterative nature of the process on many levels; production structure, administrative systems, etc. There were consecutive cycles of activity and decision-making, each seemingly reflecting the organization's capacity to change at each point in time. Staying within this level of magnification, these, in turn, were guided by fundamental retention processes on a cognitive level in the enduring thrust over a decade to construct product/output-oriented business units. From the early 1970s, the same individuals remained as executives, responsible for the building of the organization. There is a certain consequence over time and it not unlikely that a local agenda was formed early on.

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<sup>108</sup> Doz and Prahalad (1987) do use the term 'incubation' for the first phase in the proposition for a model of globalization of the established MNC (see Chapter 10).

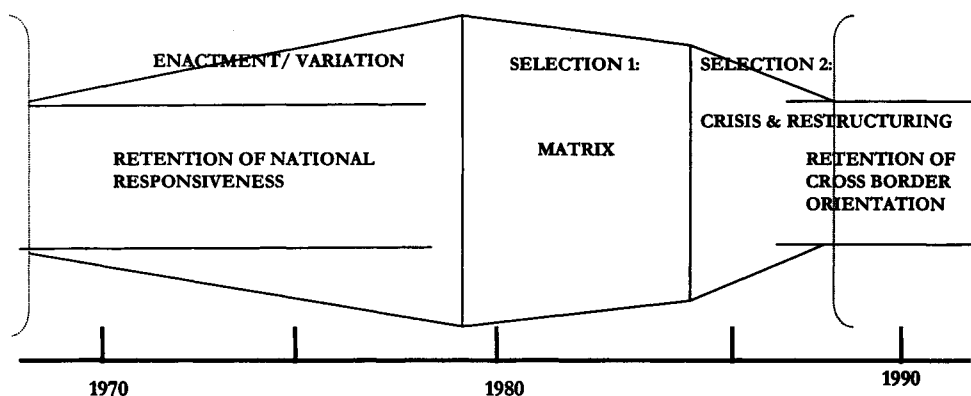


Figure 12.2. The transformation of Alfa-Laval as organizational evolution

The firm level *selection* process arguably started when an alternative had been sufficiently enacted; when a credible, feasible alternative course of action had developed. In the case of Alfa-Laval, such a point was when the product divisions had developed enough force to be perceived as a viable international management alternative. At what point in time this was perceived to be the case was dependent on each actor, and undoubtedly took place in informal processes in the form of talks on the possibly necessary selection between the two alternative modes of international management. With time, we have some evidence of 'underground' contacts between product divisions in Sweden and counterparts within the national subsidiaries and have earlier conveyed anecdotes of conflict and controversies along this line.

With the installation of the formal matrix organization in 1979, the firm arguably entered the first, of two consecutive, formally discernible, selection processes of different nature. In the business group organization of 1979, the idea that one single subsidiary in each country was for all was in a sense formally defeated. The business groups - Agri and Industry - were to have separate international organizations. However, that was largely a confirmation of a process already happening with the de facto separation of the Agri interests within the earlier coherent subsidiaries. Also, the Industry Group international matrix was not an end station, but a forum for selection.

A matrix, in a dynamic sense, provides the arena for a decentralized, relatively ordered selection process. The international integration/responsiveness matrix in this perspective emerges as a vehicle for an evolutionary transformation. In a processual, evolutionary perspective on the cross-border integration and subsequent transformation of international

management the matrix was not a separate organization structure but an integrated part of the cycle of change. The matrix was a logical response to the complexities of the situation at hand, itself an organizational adaptation. As developed extensively elsewhere, the matrix period was one of slowly shifting priorities from the national responsiveness to cross-border integration. The important mechanisms here were the small-scale conflict resolutions, that evidently manifested themselves as a pattern of shifting priorities and evolutionary selecting for cross-border integration. The matrix format provided a managerial framework for an ordered selection process.

The matrix period was still a selection process (and not retention) in the sense that throughout the period the process was reversible. There were still options in different directions. Within the format of the matrix both local/national subsidiary and global/product division officers and offices were operational. Had some major shift occurred, for example in the general political or institutional business environment, the process of selecting for the global product divisions could have been halted with relative ease.

The second, and decisive formal selection process takes place from 1984 through 1986, from the 'crash of 1984' in May 1984 to the reorganization formally effective as of January 1<sup>st</sup> 1987. This process was an acceleration along the trajectory of development already established and generated a result from which a reversal was considerably more difficult.

With the Business Area reform in 1987, the corporate managerial structure decisively shifted in favor of cross-border integration. The local operational structures were ultimately deconstructed and rearranged according to one global theme; the cross-border integration through product divisions. The focus of international management had swung full cycle, from a near-singular national responsiveness to cross-border integration. The reorganization work from 1987 was arguably one of the initial moves within a *retention* process, aligning such elements as legal structure and financial control systems to the overarching new organization principle. The wave of product division level acquisitions in the late 1980s deserves to be highlighted as a very active piece of the 'retention-propagation'. The changes in 1987 in this respect released energies that were to have a strategic impact on the firm's businesses.

### *Competitive selection and niche adaptation*

In borrowing from population ecology, there are some intriguing arguments regarding the source of organizational inertia (Hannan and Freeman 1977, 1989). Because of competitive pressures, the firms surviving in any given business environment are the firms best adapted to each environment. With intense competition specialization and niche actors is promoted. Efficiency and productivity is gained through focus and convergence around a single objective. Inertia appears as a 'by-product' of adaptation in a competitive environment<sup>109</sup>. The result lies in the sometimes occurring phrase that the very source of success (specialization and efficiency) is also the bane of the organization (inertia and lack of change capacity).

Although somewhat speculatively, these thoughts have some interesting implications on the case of Alfa-Laval and on the process of transformation of international management in the established MNC. Competitive pressures may for Alfa-Laval have been limited for some period of time. From 1929, a global multipoint oligopoly provided a stable framework that was not shaken until horizontal acquisitions in the mid to late 1980s made Alfa-Laval an industry leader. It seems likely that Alfa-Laval faced moderate competitive pressures, which may have allowed the firm to spend resources on continuous development of alternative routes such as the related and unrelated product experiments, technology tracks such as the membrane separation in the 1980s, as well as on organizational experiments. Specifically, the firm may have been able to absorb the costs associated with gradual internal change. The market dominant position may have sheltered Alfa-Laval from some external pressures for change.

The decentral, polycentric international management model is in itself an example of a loosely coupled form, thus more locally sensitive to external pressures and able to deliver a greater variance in response from which to select. It is possible that more intense competition had earlier forced a radical change.

A further implication is that business environment based upon competitive selection and niche adaptation is likely to be a volatile one, where highly specialized firms reap benefits from specialized adaptation while making themselves more vulnerable to changes in their respective niches. It seems likely to expect a high turnover rate. Very little of that is visible in the mature Alfa-Laval, and the separator industry. From 1986, however, there was a new pattern forming in Alfa-Laval. The Business Areas developed along separate vectors, each adapted to its specific competitive environment. This may have been a change towards niche adaptation and a higher degree of specialization than erstwhile.

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<sup>109</sup> Tushman and Romanelli's (1985) original discussion of punctuated equilibrium contains this argument.

## Summary

In this chapter the perspective of organizational evolution was brought in as a base for another reading of the Alfa-Laval experience. The organizational evolution perspective is a very complex rendering. I have used only parts that I found shed light on the issues at hand.

The transformation process was seen as a macro-process of variation-selection-retention. Through this perspective, the earlier developed cycle of divergence and convergence gained a more solid conceptual base and some nuance. The proposition of phases inferred in the previous discussion could be confronted with a coherent theoretical body. Through this, the phase delineation gained in understanding and in conceptual logic.

Applying the perspective to the experience of Alfa-Laval produced some promising results. The period of divergence was seen as a period of simultaneous retention-propagation and variation through enactment. The inherited international management solution was retained and propagated the international business forward in a nationally responsive mode while the alternative of cross-border-oriented product divisions was de facto given time to emerge into a credible alternative to the existing order. The result was a divergence of organizational logic, eventually incorporating several options for the firm's future.

A key observation is the simultaneity of change processes where the punctuated equilibrium perspective strongly argues for sequential processes.

Selection is a very complex organizational phenomenon. I outlined two formal selection processes: the first in the form of a slow process through a pliable, shifting international matrix; the second a more dramatic process triggered by external discontinuities that generated a sense of crisis in the leadership of the firm. The key point is that this second selection process did not alter the direction of change but accelerated the pace of change.

The new structure was administratively fine-tuned over a couple of years while the business development activity was intense on the part of the new 'masters', which showed itself especially in the form of a string of acquisitions.



## Chapter 13

### TRANSFORMING INTERNATIONAL MANAGEMENT

*The phenomenon, the issue, the purpose and the search heuristic; waves of development: cross-border integration as another internationalization process; transformative cross-border integration as an evolutionary process; transformation of international management in the established MNC - elements of a contextual, coevolutionary logic; contributions; the role of leadership in evolutionary transformation; limitations and critique; concluding remarks*

What is the nature of the change process transforming international management in the established MNC? In this final chapter I will summarize the work done, bring together the findings and partial conclusions made earlier, organize these and extend the discussion into the realm of the speculative.

#### **The phenomenon, the issue, the purpose and the search heuristic**

The research interest that helped trigger this study was what 'globalization' would mean for the international management of an established MNC. A common background may be referred to where an international business context, over the second half of the 20<sup>th</sup> century, structurally changed from fragmentation in national economic spaces over to a situation with larger economic spaces through a change process that was long-term and gradual. As especially the first generation European MNCs, established in the late 19<sup>th</sup> century, in their internationalization process established and institutionalized a nationally responsive mode of international management, the subsequent period of 'fading

borderlines' called the validity of the established international management into question and led to demands for integration across national borderlines. The demands led to a cross-border integration process ultimately transforming the international management of the MNC. Although there is a background interest in the macroeconomic globalization and its impact on the established MNC, *the focus in this study has been the nature of the firm-specific change process transforming international management.*

The cross-border integration process was seen *as an arena for studying the transformative processes*, and the experiences of the Swedish MNC Alfa-Laval was seen as a empirical site feasible for the study.

The basic research heuristic has been that of a transformation process; a change process that leads the firm from one coherent form to another form. The phenomenon of globalization of the established MNC was conceptualized as a process of cross-border integration of international management, which in its turn was seen as a transformation of international management.

The general purpose was to contribute to our understanding of transformation of international management in the established MNC. The purpose was operationalized into two main parts, one empirical in the purpose *to provide an account of a cross-border integration process of international management in the context of an older established MNC.* An effort integrated to that is to assess the structural and temporal scope of the cross-border integration process and in so doing formulating an understanding of the importance of the process for the established MNC. Second, with a language building aim, a purpose *to conceptualize the nature of the cross-border integration change process.*

### **Waves of development: cross-border integration as another internationalization process**

The international management of the MNC develops in waves. Waves of change interspersed with periods of continuity and relative focus and calm. Thus the long-term evolution of international management in a specific MNC may be portrayed in a series of internationalization processes of varying nature. Cross-border integration is another internationalization process in the history of the MNC. Corporations are ongoing concerns developing at different levels of inclusiveness, where periods of higher level of change activity are interspersed with periods of relative continuity. As a specific consequence, the cross-border integration is an identifiable phase in the long-term development of the MNC. While the MNC, and its international management, is fundamentally an ongoing



organizing system, I have judgementally singled out one transformative change process for a study of the transformative change processes that link two forms.

The research effort was largely descriptive in orientation, building on a long series of earlier empirical and conceptual research on the growth and development of the modern MNC. The development was portrayed using a synthesized model of a typical sequence of the development of the organization forms of the modern MNC, but because of strong evidence for varying regional practices the model was focused on the history of the decentralized, older and typically European MNC, founded in the period of industrialization in the late 19<sup>th</sup> century. The model developed is a relatively conventional stages model positing three stages (periods of continuity) linked by two change processes. Although superficially based on a life cycle theory model of change (Van de Ven and Poole 1995), I do not intend it to be. Some of the underlying models used to build the variant employed in this study are decidedly life cycle based, such as Vernon's (1966) life cycle model of internationalization or even stronger so Howard Perlmutter's (1969) model of a progression of the MNC through ethnocentric- polycentric and geocentric stages. The life cycle assumptions show in propositions for underlying generative mechanisms in programs or codes making a certain progression through a defined set of stages predictable (Van de Ven and Poole 1995). Some models, especially Bartlett and Ghoshals (1989) is decidedly based on a teleological change theory (Van de Ven and Poole 1995) in the managerial convergence of regional variations towards the singular 'transnational' solution, and calls for executive leadership involvement in realizing the goal. I do not intend the model used to be either a life cycle model or a teleological model, but evolutionary (Van de Ven and Poole 1995).

The initial stage was labeled the infant multinational, which through a process of international establishment led over into a stage of multi-nationality. The Uppsala school model of the internationalization establishment process was employed for a, certainly somewhat sketchy, outline of the international establishment process through the establishment of contractual arrangements with local agents and subsequent investments in local sales- and production operations in the form of national foreign subsidiaries. The here sought after globalization becomes a process of cross-border integration that led the firm from being multi-national to global, or cross-border oriented. The deduced generalized model proved a feasible framework for interpreting the Alfa-Laval material.

The growth and expansion of the young Alfa-Laval, founded in 1879 and incorporated in 1883, was largely conducted through an internationalization process. Alfa-Laval was not a *national firm* for long. Growth, expansion and international establishment was not processes separated in time, but simultaneous and intrinsically involved. The seemingly pragmatic and very quick international *establishment process* largely using local agents in the first years, led over a longer period of time to a nationally responsive international management, with a *multi-national* legal and organizational structure, with partially 'cloned' operations and partially developing along varying paths depending on the local contexts. Decentralized, local product development, the interwar protectionism, the severing of ties between national units during the Second World War and the demand surge of the 1950s served to further loosen the coupling between foreign subsidiaries.

National firm	1879/83
Establishment process	1879 - (1885, 1885 -) 1914
Multi-national firm	1885 (1914) - (1968) 1979
Integration process	1968 - 1988
Cross-border firm	1988 -

Figure 13.1: Temporal definition of internationalization stages and processes of Alfa-Laval.

Still throughout the 1960s Alfa-Laval had a concerted national orientation of international management. All primary elements of the value chain were nationally defined, from purchases through local suppliers, over production facilities, branding and local product development. Organization structure varied between subsidiaries as did administrative practices. Career opportunities for the locally recruited were often substantial but, save a very few posts at the top, confined to the national company. Bank relationships and finances, and even board memberships were often local concerns. However, the Swedish parent company made some important changes over the decade of the 1960s, selling off significant activities unrelated to the historical core and refocusing efforts. Formally, the nationally defined foreign subsidiaries remained as the international business management structure until 1979.

Towards the end of the decade of the 1960s, and around 1970, some changes were made as departures from the existing nationally responsive practice, as foreboding things to

come, and as symbolic of upcoming changes. Through sales of unrelated, however local, activities, there was a renewed focus on the traditional core businesses. A couple of non-domestic acquisitions were organized under Swedish units and not under the local subsidiary. A new administrative standard was introduced with the explicit aim of international standardization. The Greek alfa sign was added to reinforce the international corporate logotype and help in a unified global market appearance. The first signs of a new management cadre became visible with Harry Faulkner appointed as deputy managing director of the parent company and Lars Halldén as head of the Lund activities. As a moderation of the classic principle of all foreign subsidiaries reporting to the managing director of the parent company, Harry Faulkner came to share formal responsibility for the foreign subsidiaries with the managing director. Both Faulkner and Halldén were active in the reorganization of the Swedish parent company into product 'sectors', replacing the functional organization put in place by John Bernström in the late 19<sup>th</sup> century. Quite symbolically, in 1970 Jakob Wallenberg stepped down after forty years as member of the board of directors and ten years as chairman of the board of directors of the parent company.

The decades of the 1970s and 1980s saw an extended and eventually completed *cross-border integration* in the form of a transformation of international management, from the inherited national orientation to cross-border integration. The details of this period will be summarized and conclusions drawn in the next section.

From the late 1980s, I ventured to offer 1988 as a fixed point, the pervasive manifest orientation of the international management of Alfa-Laval was one of *cross-border integration*. The primary value chain activities were controlled through global product divisions - the Business Areas - and organized into functional networks with specialized and differentiated units built for and requiring cross-border operations in for example logistics and information handling as well as managerial cross-border coordination. Branding was coordinated as was pricing. Organizational symmetry and administrative transparency made international consolidation the norm.

In relation to the classic propositions for international management forms, the beginning state of the Alfa-Laval transformation is quite clearly matched to the 'prototypical' European, mid 20<sup>th</sup> century, multi-national form as described by Franko (1976) as 'mother daughter relationships', or in the synthesized model by Bartlett and Ghoshal (1989) of the 'decentralized federation', which contains polycentric attitudes (Perlmutter 1969). There is a strong parallel in the case of the Dutch company Philips, especially so in the outline of the international management form around 1970 and the key strengths (local market presence

and responsiveness) and weaknesses (lack of scale and cost inefficiencies), although the Philips company was considerably larger. Thus far I have refrained from classifying the 'end state' in the language of the established international business forms. In fact, I deliberately defined the end state quite openly as a pervasive cross-border orientation without specifying any earlier form, emphasizing that the study was not a test of the route to any one specific form. The focal change process was a full cycle from multi-national orientation to a cross-border orientation, or from responsiveness to integration in the I/R grid, and it was the pervasiveness of the cross-border orientation that was in focus, not the prespecified form. Ex post, what kind of classification can be made? The corporate level structure was based on *global product divisions*, where the divisions were quite classic strategic business units incorporating all functions required to fulfill their missions. They were operative divisions, not measured on financial items, but free to craft their own strategies including acquisitions programs. The divisions controlled the technologies. Internationally, the divisions had their respective operative companies for *different, specialized functions*, while capital was controlled through national holding companies reporting to corporate management. I argued for a partial or *decentral geocentrism*, partly as a result of the new cadre of divisional managers who were not of Swedish nationality, and partly arriving as a result of the international acquisitions on a divisional level. There were company culture project introduced on a divisional (BA) level. The formal matrix of the early 1980s was gone, and so was the de facto, post 1986, matrix relationships with the ongoing split of the remaining mixed market companies. There were elements of Gunnar Hedlund's (1986) heterarchy. The integrative glue in the late 1980s was not the least a corporate executive management group, and key divisional managers, was individuals with near life time association with the firm, providing a normative integration. This 'laser beam effect of culture' (Hedlund, 1986) was, however, thinning out with an externally recruited CEO and new managers within the BA's. However, Alfa-Laval in the late 1980s cannot be classified as a heterarchical web of opportunistic, fleefooted and greatly differentiated arrangements held together by Faith in the common mission. Nor do I see a reflection of the global and local, paradoxical, integrately networked and intently learning transnational (Bartlett 1986, Bartlett and Ghoshal 1989) in Alfa-Laval. There lay some claim in the vision of a 'sleeker product division' (Franko 1976).

*Observation: radical change over a wide space of time*

The long-term model permitted the cross-border integration process issues to be structurally and temporally framed, and the importance of the change process for the company assessed. Structurally, the result of the cross-border integration change process was *a coherent, fundamental change in content* of international management corresponding to a shift from a nationally responsive, mother-daughter-like form, to a cross-border oriented form. Temporally, these *forms were identifiable twenty years apart*.

The discussion of the long-term development of Alfa-Laval was largely driven by the significant tradition in international management research in modeling internally consistent structures or forms of management, aligned with a specified set of conditions of the business environment. The structural alignment perspective was the motor behind the generalized model of the long-term development of the international management of the MNC. This tradition has provided many insights into the structural arrangements but provides limited understanding of how one form may succeed another. It should be emphasized that this does not imply an espoused disinterest in change issues on the part of researchers' but that the structural alignment perspective highlights form but provides inadequate tools for understanding process issues. For an understanding of the change processes linking the posited forms theories must be found elsewhere.

This lack of information concerning the globalization of international management of the firm was a key impetus to turn to a search for change process issues. Looking back, an important early formulation of research approach and methodology resulted in a shift from a 'digital' to an 'analog' point of view. Instead of being interested in the content of a 'globalized' international management in a structural or comparative static sense, the issues came to focus on the change process aspects and eventually on the figure of thought that there was a transformation process required to lead the international management of the established MNC from a multi-national to cross-border orientation. In this study this shift from 'digital' to 'analog' was evident in the application of the model of the development of forms of international management, where the structural alignment perspective can be said to have generated a 'digital' image of the development of the MNC but with a very poor 'sampling frequency'. The quality of the sampling was so poor that I had to revert to an 'analog' methodology of approaching the nature of the transformation process that lay in between the defined forms.

### **Transformative cross-border integration as an evolutionary change process**

Two alternative transformative change routes have been discussed, one 'revolutionary' and one 'evolutionary', for a conceptualization of the nature of the process of transforming international management in the established MNC. A punctuated equilibrium perspective provided a 'revolutionary' outlook. A perspective of a cycle of divergence and convergence under conditions of loose coupling provided a first look at evolutionary transformation, and, finally, a perspective emanating from organizational evolution theory. The conclusions, merits and possibilities of each will be discussed in the following.

### *Three perspectives on two alternative change routes*

The *punctuated equilibrium* perspective was the first applied, as a well developed coherent theory of strategic transformation processes, combining arguments of the nature of organizational change with arguments concerning the nature of organizational form, where the two make a pair of mutually reinforcing arguments. This piece of the research process was largely deductive, importing an established theory to the arena by arguing for its contextual applicability, and subsequently exploring the possible consequences and conclusions. The propositions of the punctuated equilibrium perspective of a short and disruptive change process linked to tightly coupled, efficient and institutionalized form, proved to be a challenge when brought in dialogue with the Alfa-Laval material as well as earlier empirical studies of the globalization of international management. The value of the perspective hinges upon the nature of the institutionalized organizational form and managerial structure. This 'deep structure' not only, with tight coupling, serves as the basis for organizational efficiency, but operates as a sort of organization's black hole, foreclosing any ideas circumnavigating the (invisible) center. With strong enough 'convergent mechanisms', the organization becomes incapable of developing partial, local or gradual responses to needs for change. The organization remains convergent until adaptive pressures forces a crisis upon the organization, whereby the entire fabric becomes untied. The ensuing change process is simultaneous, disruptive, chaotic and, by necessity, short. The inefficiencies, uncertainty of the social order and lost sense of purpose denies the possibility of an extended change process.

The arguments for resilience of form and the efficiency of alignment can indeed found support in the Alfa-Laval study. Empirically, there was considerable force in the retention of the foreign subsidiary structure. In the early years of the transformation period, over most of the 1970s, the national foreign subsidiaries provided a firm and remaining

international management structure while the 'experiment' in the parent company of reorganizing into product divisions was developing. The final years of the study represent, measurably, the benefits of focus and alignment with the Business Areas as structurally aligned to their respective business environments. If profitability is used as measurement, the final years of the 1980s through 1990, displayed what was the best return on capital over the entire period studied, with one sign being the around 6 BSEK in cash reserves at the time of the Tetrapak acquisition. In addition growth was regained and the scope of the firm was broadened through a series of new global businesses. These results were produced at a point in time where I have argued for the new (decentral) alignment of the firm around cross-border integration. The period of transformation was over. The new structure was selected for and the retention-propagation period proved a great material success.

Alfa-Laval exhibited an intense multilayered change period in the late 1980s that could at a distance be classified as a punctuation. A proposition like this would highlight the relatively intense changes in Alfa-Laval in those years. But one runs the risk to conclude that the short 'transformative' period was an isolated event following a convergent period and quickly leading over into another equally convergent period. Rather, the period represents a peak and conclusion of the transformative cross-border integration process. The short and intense period of change in Alfa-Laval can only be made sense of in the light of the extended transformative process.

There were great difficulties in conceptualizing the experience of Alfa-Laval as a short and chaotic punctuation change. Such a view becomes simplistic and incomplete. When earlier secondary empirical results were introduced, the cross-border integration process emerged as both long and ordered. The understanding the punctuated equilibrium brought to the change process issues was that of a puzzling counterpoint to the empirical material. The punctuated equilibrium theory is rather elegant, well supported by research and well published, but seemed provocatively unable to deliver an understanding of the empirical reality portrayed in the account of the experience of Alfa-Laval. In fact, the tension identified provided an important impetus for the ensuing work and gave direction for the course of the research process. One such avenue was the 'degree of interconnectedness' of elements of the international management system.

The second perspective, a *cycle of divergence and convergence*, was developed as a response to the conceptual tension identified. The starting point was the exploration of the metaphor of loosely coupled interconnectedness, structurally and temporally, internally and with the environment. In conclusion, loose coupling must be seen as an indispensable part of an

evolutionary perspective. With loose coupling, partial responses may be developed without threatening the efficiency of the entire system, such as the iterative elements of the process identified. The inherited social structure may be left operating while an alternative structure is being developed off side, such as was the case with the national organizations remaining in operation while the product divisions were being developed. Similarly, local development work may be detached and incubated. The meaning provided by the existing structure can be maintained while an alternative logic is being tested. Likewise, with temporal loose coupling, gradual and iterative change patterns be found. As such an assumption of loose coupling is a conceptual argument behind the earlier used analogy of the product divisions as the cuckoo's egg in the nest. The cuckoo's egg is a detached incubator; a local, partial and gradual development with considerable impact (or devastating impact, depending on vantage point) on the existing structure. *The extended and ordered nature of the cross-border integration process of Alfa-Laval can only be made sense of with an integrated assumption of loose coupling.*

Armed with the loose coupling perspective the Alfa-Laval transformative cross-border integration process could meaningfully be interpreted in a full *cycle of divergence and convergence made up of phases of different change intensity*. This research effort was based on inspiration from earlier empirical research on similar issues with propositions of ordered change processes (Bartlett 1979, Prahalad and Doz 1981, Doz and Prahalad 1987, Malnight 1996). Similarly, organization studies on transformations indicated the possibility of a general perspective of ordered change processes (Levy and Merry 1986, Johnson 1987). The concept of organizational convergence was employed as in Fombrun's (1986, 1989) studies of the non-deterministic, idiosyncratic and unique formation of organizational configurations. For an already established firm, there had to be divergence before convergence, if a cycle of transformation should be complete.

The ensuing reading of the empirical material<sup>110</sup> generated propositions regarding the order and nature of phases within the transformative process. The full cycle of transformation, was divided into phases of divergence (1968 through 1978), the matrix pendulum (1979 to mid 1984), catharsis (mid 1984 through 1986) and reconfiguration (1987 through 1988).

The notion of crisis was brought to the fore in the discussion. Crisis is deemed more or less indispensable in the punctuated equilibrium perspective on organizational change (e.g. Gersick 1991), where crisis is the above discussed condition of upheaval of the entire

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<sup>110</sup> See details in chapter 11.



organizational construct. In the light of a cycle of divergence and convergence the issue of crisis must be moderated. Crisis may be an integrated part of a change process, but from a processual perspective it may be a positive force; a useful piece of the development cycle. In the case of Alfa-Laval I argued that the events of 1984 qualified as being described as a crisis, albeit partial and minor as only parts of the corporation were severely affected and the corporate profitability remained in the black, but not as a disruptive series of events. In the transformation of Alfa-Laval, the events following the problems in mid 1984 led to an acceleration along a change path already trodden. The international management alternative of cross-border integration through global product divisions, was established as a result of the informal developments throughout the 1970s, and a formal change towards that effect had been ongoing within the framework of the international matrix from 1979. The changes made in 1987, with the formal reorganization into global product divisions, had a long time in the coming. *Within transformation cycles, a crisis may serve as a triggering event and thus contributing to the change rather than disrupting it.*

With the reading of the cycle of divergence and convergence, an alternative proposition to that of the punctuated equilibrium perspective was reached as to the nature of the transformative cross-border integration process. It combined a view of *the change process as evolutionary; long and ordered, iterative and additive, local and partial, gradual and meandering, with a perspective on the structural interconnectedness based on loose coupling.*

With the tensions and issues generated by the punctuated equilibrium perspective followed by an alternative proposition of a dynamic, ordered cycle of divergence and convergence under the condition of loose coupling, a third perspective was developed. *Organizational evolution theory* was employed with the purpose of adding to the conceptual foundation of the findings. This piece of the research process was basically deductive where the language of evolutionary theory was developed and employed in a dialogue with the empirical material. The language was well equipped to discuss the transformation process of Alfa-Laval and readily complemented the earlier developed cycle perspective rather than substituted it.

My use of the punctuated equilibrium perspective is by no means exhaustive, but was approached as a useful addition for the theoretical grounding of my findings at this point. Also, to take the notion of 'evolution' at face value. The contributions of this piece for the interpretation of the events of Alfa-Laval were not widely dramatic, but *served to solidify the logic of the cross-border integration of international management in the established MNC as an extended cycle of divergence and convergence.*

As I am not conducting a study on a population level, the specific angle in this study of the rather complex field sometimes referred to as organization ecology (Hannan and Freeman 1989, McKelvey 1994) is adaptation through intraorganizational evolution. I discussed some complexities with importing an analogy from biology, based largely on the different ontologies, and argued for the use of the analogy as a metaphor; an inspiration that needs throughout to be operationalized and where the applicability of arguments must be discussed. There is an intellectual line of development from the processual perspective developed as the approach of the empirical study<sup>111</sup>, to the later organizational evolution theory. In fact, some of the suggestions for research appearing in the organizational evolution literature are similar to the way the Alfa-Laval study came to be realized. There is room for a dialogue between the evolutionary theory language and the empirical study herein, and I find it less than surprising that there is a significant degree of complementarity between the observations from the organizational evolution perspective and the perspective of a cycle of divergence and convergence.

The evolutionary idea of a cycle of evolution through variation, selection and retention sheds some light on the transformation of Alfa-Laval. The initial divergence phase identified earlier may be discussed in terms of a period of variation generation through the social process of enactment. With the necessary condition of generation of credible options for the future to be created, and the necessary time requirements for an idea to reach a state of credible alternative, the extended period of divergence gains some logic. The word divergence indicates the process of generating a greater span of organizational realities over a period of time. *The phase of divergence produces variance within the firm.*

A key observation from this reading lies in *the parallel processes of retention-propagation and variation generation in the divergence phase*. Over this period of time the 'old' was not followed by the 'new' but the established inherited structure provided a backbone of efficiency while an alternative capacity to conduct international management was being built up. The national subsidiaries remained while the product divisions were in the process of formation. Here the language of evolutionary theory helped in finding nuances and in defining issues.

Selection must have some material to work on. Organizational evolution needs impulses, ideas and the enactment of these ideas into credible alternatives. The cross-border integration process needed an alternative to the multi-national management style that had been so successful. In Alfa-Laval the alternative was developed organically, in an incubator. *Organic development of variation is likely to take some time.*

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<sup>111</sup> See chapter 2, Methodology.

The process of selection proved an issue of some complexity. First, informal discussions have undoubtedly played an important part in the selection process, and most probably at an early date, albeit only occasionally picked up with the methodology and the search heuristic employed. From the height of divergence, I proposed *two consecutive formal selection processes of different nature*. Firstly, the decentralized negotiations of the matrix period 1979-1984, where a slow 'pendulum' change process was the result. Secondly, a more visible, heightened process fueled and triggered by the 'crash of 1984'.

The 'retention-propagation' of the national orientation that so stubbornly resisted change throughout the 1970s, was ultimately replaced by a pervasive cross-border orientation. The latter years of the study were spent fine tuning the new orientation, increasing the structural coherence of the format. A new continuity of retention-propagation was established that remained through the period of the intensive study.

#### *Transforming international management in the established MNC: inner process logic*

One of the conclusions of the study is that *revolution in content may be attained through an evolutionary process*. Specifically, cross-border integrated international management systems have, in the specific context of Alfa-Laval, and may have in the general context of the cross-border integration of international management in established European MNCs, emerged through a gradual evolutionary process. Second, *there is an inner processual logic of the evolutionary transformative process*, the elements of which lies in the discussion above. This study has focused on generating a logic for the inner process, while contextual, coevolutionary implications have been in the background. By inner process logic, I mean the series of propositions regarding the sequence of firm-specific events over a cycle of transformation. By contextual logic, I mean the coevolution of firm and environment. In this section I will summarize the inner process logic that has emerged and discuss some conditions. In the next section I will comment on the coevolution of international management and the environment.

There is an underlying mechanism (Van de Ven and Poole 1995, Clark 1999) that influence the framework in the assumption of *loose coupling* (Weick 1976, Orton and Weick 1990). Loose coupling allows for the *plasticity of form*, and specifically for local, and partial change initiatives. *With local, partial and varying change initiatives on a micro level, the change process on a firm level may appear as gradual and extended.*

The resulting *change cycle is one of divergence and convergence*, where there is likely to be *phases of different change intensity*. Over a divergence phase, the repertoire of action patterns will become broader, as the inherited is matched by enacted alternatives gaining credibility. Variance is built over some time while the existing structure propagates the firm path dependently. I have deliberately used the word propagation combined with the Darwinian 'retention' as it conveys activity better. *Variance is thus simultaneous to, not sequential to retention-propagation*. This simultaneity is a critical mechanism in providing for a nondisruptive change process. Ongoing variance building prepares the firm for multiple futures; it produces options for the future. *Variance is built in a detached incubator*.

If the new option is introduced on the center stage early in the process, it is not unlikely that the retentive forces may select in favor of the old structure, whether for rationalistic efficiency reasons or for political. *Selection* is in this context, at its most fundamental, the intracompany competition between the inherited structure, and the new, challenging variance. If no early crisis appears, it is not unlikely that this increasingly dual principle construction carries on until some meaning-, power focus-, or efficiency loss develops. At that point, the firm is forced to face a selection process. Selection between the existing structure and the various options is likely to be a complex affair, including individual or small group selfcensorship, and formal board room decisions. There is likely to be *multiple, extended selection processes*.

The cross-border integration of international management in the established MNCs has been identified as an extended and ordered process, in the Alfa-Laval study as well as in earlier works. Much of that process was spent in relative obscurity meandering through partial, local and reoccurring issues in factual, relational and ideological levels<sup>112</sup> of the firm. What I have tried to establish is that there may be constructed a processual, inner logic for the extended evolutionary transformation processes.

Apart from some key mechanisms, there may be internal *conditions* necessary or facilitating for the gradual transformation to be successfully accomplished. A necessary condition is the ability of the firm to absorb the costs of transformation, both direct costs and the likely appearing inefficiencies. I will return to this issue in the next section. One facilitating, but perhaps not necessary condition may lie in the continuity of history/meaning providers. The extended transformation change process is likely to

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<sup>112</sup> See Hellgren, Melin and Petterson (1993) and Fombrun (1986, 1989) for a discussion of fundamental perspectives in organization science, which may also be used as mutually enriching descriptive categories. Czarniawska-Joerges (1993) outlines three very similar categories, while advocating a 'constructionist' departure point.

produce some periodically contradictory or paradoxical rationalities and ensuing confusion within the firm; a loss of meaning or purpose that may not be sustainable. Perhaps these can be appeased by the long-term presence of key individuals, lodged in the history of the firm, and providing an overarching cohesive framework. In the experience of Alfa-Laval this is amply represented in the stable group of managers throughout the transformative period. A third possibility is limited product diversification, which is an argument somewhat tied to the earlier, in that executive managers may possess a substantive decision making capacity with less distance than managers of near holding company firms.

### **Transformation of international management in the established MNC - elements of a contextual, coevolutionary logic**

The discussion above developed a set of propositions regarding the nature of the inner process logic. What the logic lacks is a contextual or coevolutionary logic. This section will sketchingly outline some possible pieces of such a logic.

The initial impetus to this study was an interest in the effects of 'globalization' on the international management of the established MNC. As my interest and the research issues turned towards the firm-specific change process, the environment-firm issues came to form a background rather than being focal research issues. Here, I return to the interplay between the firm and the external context of the globalization.

A perspective of evolution argues for mutual influence between aspects of environment and aspects of the organization. With an argument of the environment becoming endogenous rather than exogenous (March 1994), in the sense that the environment is intrinsically involved in the production of organizational outcomes (Pettigrew 1987), we are approaching a situation of the firm realizing its 'symbiotic potential' vis-à-vis the environment (Hedlund and Rolander 1990). The relationship between organization and environment is not one of discrete alignments, but one of ongoing, mutually influencing evolution, or coevolution (Baum and Singh 1994, Rosenkopf and Tushman 1994, Van de Ven and Garud 1994, Lewin and Volberda 1999)<sup>113</sup>. In a (co)evolutionary perspective the dividing line between organization and environment becomes decidedly blurred. With both

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<sup>113</sup> The term 'coevolution' may well be seen as redundant, depending on how you place emphasis on the various aspects of evolutionary theory. Already in Darwin's works, the interplay between the unit of selection and its environment is critical. 'Coevolution' is useful here because of the initial focus on firm-specific processes of change.

external and internal environment decomposable into a great number of hierarchically organizable categories, there are potentially a near infinite set of possible points of influence across categories, whether external or internal.

### *Coevolving and gradual globalization of the established MNC*

The well published macroeconomic developments of 'fading national borders' over the second half of the 20<sup>th</sup> century, and the pressures on the established MNCs to change with the context will not be reiterated here, but some consequences will be made explicit. The basic argument is that there is indeed a link between the international business environment and the strategy and organization of the MNC (e.g. Porter (ed.) 1986, Doz 1986, Chandler 1990), and that the environmental changes are to a significant degree exogenous. Of key interest in this study is the diminishing importance of the national border as definer of economic activity and the effect this development may have on the international management of the established, and multi-nationally organized, MNC. The macroeconomic effects were both structural, in the form of increasing rewards and competitive necessity to operate integrately across-borders, and dynamic in the form of a relatively extended and gradual change macroeconomic process.

The globalization of the international economic conditions is a multifaceted phenomenon covering technological, demand, ideational and institutional factors (Parker 1996). The resulting integration of national economies has been a long societal change process. The multinational companies have been both cause and effect in this development. The companies have been striving to become more efficient in the resource employment leading to cross-border rationalization, better communication technologies and management information systems have facilitated centralization of standardized information flows and capital management to the parent company. On the other many observers note an increasing necessity, and potential for local autonomy, which through modern information systems may be coordinated (Hagström 2000). We are left with arguments of the paradoxical nature of the MNC. The time frames, and the long, gradual and complex development periods of key technologies may well be lifted to the front - also the internet has a history from the 1960s (Castells 1996). Somewhere along the lines the idea of a global, cross-border integrated firm has gained hold and eventually become a dominant figure if thought in and around the firm.

Even for a MNC of some size, like Alfa-Laval, these changes have arguably had profound effects. Structurally, a firm with nationally responsive strategy and matching structure does produce a mismatch with an economically integrated environment of 'faded national borders'. Such a situation would miss rewards and produce inefficiencies. There are alternatives of local operation also in a 'borderless' world, but a limited number that the capital markets would accept. Seen point to point, the powerful restructuring of the macroeconomic environment places very distinct demands on a different international management. Dynamically, the issue is at what pace the development produces demands for internal restructuring. This is a more complex issue, that partly depends on the resilience of the organizational form.

The conclusions of this study indicate that the firm came to respond in two parallel, simultaneous tracks to the gradual integration of the national business environments. First, the continued reliance on the national organizations, second, the development of a new option for an integrated environment without national borders.

Driving forces of the cross-border integration process of Alfa-Laval were multifaceted, both exogenous and endogenous. The macroeconomic development, especially in Europe, where national borderlines became of lesser economic importance and a common market emerged, was coupled with other exogenous processes such as that of information technology development, and with internal developments towards systems sales, while retaining the component activities, and ensuing product diversification and complexity of the strategic and managerial issues.

The firm-specific change process may have been shortened, if there had been existing alternatives in the business environment to be imitated. Considering the date in which the developments in Alfa-Laval took place there was probably little possibility to benchmark an already existing solution - there is little material, but an example like the Dutch Philips company displays a similar timing of events, with a key difference that Philips did not bring its attempted integration to a conclusion, but seems to have continued to struggle with cross-border integration issues all through the 1990s. The academic interest in 'globalization' as reflected in international management research is a product of the early to mid 1980s, when the transformation of Alfa-Laval - and Philips - was more than ten years in the making. As a consequence, and as an alternative research strategy, it is possible to approach the transformation as an innovative process.

Summing up, the gradual nature of macroeconomic globalization translates with a coevolutionary logic to a gradual firm-specific change process. A necessary condition is,

again, an open systems, loosely coupled assumption of the nature of international management.

### *Plasticity and 'sand in the wind'*

To be like sand in the wind is about the plasticity of organizations. It is about their capacity of being pliable, flexible and learning. I picked up the slightly poetic metaphor from Karl Weick (1976, p7). The alternative is, of course, to be like a rock in the wind. - steadfast and strong, resisting passive, adaptive change. The rock needs a considerable force to be moved; when it does, the whole piece moves at once.

Poetically; sand in the wind moves and sand dunes in the wind travel. When a steady wind is blowing on the mass of sand, the wind moves the dune grain by grain. The top grains, most exposed to the wind, first take off and settle first. Layers of sand are peeled off to cover the already moved grains and layers. Eventually the wind settles, the sand dune settles. It is in a different place, in a different form, in a different order. Yet, it is still sand, it is still recognizable as a sand dune, it is even that very sand dune.

The metaphor of organizational change as sand in the wind is quite applicable to the gradual adaptation process variant of the globalization process of established multinational firms - certainly for the case of Alfa-Laval. Recognizing the loosely coupled nature of both sand dune and firm, it is possible to reconcile the form of the firm with the evolutionary change patterns found. Every action in the firm is a grain of sand, affected by a wind of which the firm actually is both cause and effect.

The wind did not dissolve Alfa-Laval. The firm was not passively exposed to the wind and spread by it. The firm was not blown away. The wind did not produce a decoupled (Orton and Weick 1990) Alfa-Laval. To move further in understanding the firm-specific processes, the somewhat instrumental nature of the 'sand in the wind' image has reached its limits. Organizations are socio-cultural entities, and inter-subjective processes of sensemaking and subsequent enactment of alternatives will translate the 'ecological' change influences (Weick 1979, 1995) into a realized new course of action.

It has been a long societal change process and it has been a long change process for the firm. Even a fairly big multinational firm like Alfa-Laval was in the midst of an epic societal change process. The conclusions of this study point in the direction of further issues concerning the 'plasticity' of organizations. The 'wind in the sand' metaphor communicates one way to perceive this quality. If every action in the firm is a grain of sand, and a steady



wind is blowing on the pile of sand the pile will slowly relocate. The metaphor indicates that loosely coupled systems may indeed provide a 'sensitive sensing' mechanism. Like a pile of sand is more sensitive to the force of the wind than a rock, a loosely coupled multinational firm provides more points of sensitivity to forces that work towards cross-border integration than would a tightly coupled firm.

An intricate consequence of this metaphor, in regards to globalization, is its deterministic overtones. Eventually all actions will be taken in the same direction, exposed to the same exogenous force. The exogenous force of the globalizing wind affects all aspects of the firm, and eventually the pile of sand is moved by the force. Hardly a grain of sand is untouched; all are moved in the direction of the wind. Somewhat uncomfortably, I find these aspects of the metaphor strangely in tune with the Alfa-Laval case. With the passage of time, all aspects of Alfa-Laval moved in the same direction. Not at the same time, and only occasionally through major, sweeping decisions. The transformation of Alfa-Laval occurred neither through one single major decision, nor through a few decisions, but through a great number of little strides. Still, the little strides eventually were taken in the same direction, and with a combined transformative result. However voluntaristic any one decision point may seem, the results of the many decision points went in the same direction.

A major, perhaps unexpected, exogenous discontinuity would have posed a different challenge. A condition for a gradual transformative change pattern may be the absence of great, singular discontinuities. Internal, gradual adaptation is likely to take some time and sizeable exogenous discontinuities may foreclose the process.

Summarily, it is possible to offer some inroads towards a contextual, coevolutionary logic, in terms of generative mechanisms and conditions of the transformative process in its evolutionary face. The drivers of change is likely both internal and external, the point being that not only external adaptation issues produce mismatches that result in intolerable pressures for change. Evolutionary change would likely be present if the external changes at large are gradual. An evolutionary, loosely coupled system is not easily governed (Weick 1976, Chia 1999) and may not be selected for if there indeed is big discontinuities in the business context.

## **Contributions**

Contributions from this study may be found in three areas: empirical, methodological and conceptual. *Empirically* the Alfa-Laval study has provided a type of study that is in scarce supply in international management studies. It provides a narrated account of a completed transformative change cycle. The narrative was conceptually anchored, based on real time and reconstruction, detailed and guided by event time. Furthermore the story of the transformation was placed in the firm-specific historical context.

#### *A reflection on the study as a realist turn*

*Methodologically* the conscious and deliberate reading of the narrative through the different lenses of the conceptual perspective could add to the debate on research methods. As more of an ex-post reflection rather than guiding position, the methodology is part of a 'realist turn' (Clark 1999). The realist position has the potential of avoiding both the objectivist trap of seeking the one single truth and the postmodern trap of circles of (self)referencing arguments. By leaving the issue of the actual existence of things to philosophers, a part of reality may be framed and studied as actually being there. This certainly does not mean studying 'nature' but to work from the 'description of nature'. With the description of nature locked up, several conceptual bases accept the social construction of paradigms of scientific thought (re Kuhn 1970), and thus engages in a dialogue between perspectives. These built in tensions between depiction/description and socially constructed lines of thought, as well as between lines of thought, has the potential of providing a fertile ground for creative thinking.

The study was divided into two sequential parts, an empirical and a conceptualizing, with different modes of knowledge production. The purpose of the first part was to provide an account of the transformative cross-border integration process in an established MNC. A starting point was that a stream of actions produces paths of effects in that the actions produce realized outcomes that may be material as well as immaterial. These actions produce recordable outcomes as bits of information that can be seen as artifacts. Artifacts have been defined as "(a) a product of human action which exists independently of its creator, (b) intentional, it aims, that is, at solving a problem or satisfying a need, (c) perceived by the senses, in that it is endowed with its own corporality or physicality". (Gagliardi, 1996, p565, Gagliardi's italics). Relaxing the last point above to contain both physical objects as for example a office building or a computer mainframe as well as immaterialities such as an organization structure in the form of a chart on a paper, I have found it reasonable to see my search as

one of a search for the artifacts that are the effects of actions. I have treated the bits of information as artifacts, and these artifacts as objects in the meaning that they have existence 'independently of its creator'.

A subsequent issue is whether the artifacts exist independently of the researcher. A realist answer would be yes, but not independently of the researchers frame of mind. Herein lies what I think is a creative tension in the realist position. A piece of reality may be approached and made subject to several attempts of interpretation. In fact, several confronting attempts employing different perspectives may be the desirable approach.

Already the information collection contains a screening which is depending upon the researcher. The realist position tends to see reality with a certain latency, in the meaning objectively existing but depending upon the (inter)subjective frame of mind of the researcher. Realist debate, when characterizing the link between the objective fact and the researcher's recording, tends to employ a division into mechanisms (part of the domain of the real), events (part of the domain of the actual) and experience (part of the domain of the empirical) (Tsoukas 1994, Clark 1999). The mechanism is the underlying real structure, the event the actual latently observable, which may result in the observers experience and hence recordable. Collecting the artifacts is a process burdened or enlightened by the researcher's perspective and decisions regarding the operative research methodology.

A focal point of the methodology was, through my experiences in the field work, to record events that possibly could be arranged to uncover the mechanisms of the real domain. The structuring of the presented Alfa-Laval narrative was closely linked to the search heuristic of the field study. In this sense, and with the qualifications that lie in the discussion above, the ambition of the field study was one of depiction (Brunsson 1981); to capture a piece of reality existing prior to my experience of it. Inductively, the 'experienced', i.e. observed and recorded, actions and events were structured and arranged as I saw patterns of change and continuity.

The resulting structured narrative text was subject to formal interpretation attempts. Interpretation of the collected information introduced a new complexity, which eventually in this study became an acceptance and appreciation of subjective epistemology (Tsoukas 1994, Johnson and Duberley 2000) and with that standpoint to employ different theoretical perspectives in the interpretation. Gagliardi's (1996) fundamental proposition is that 'materia matters'. Similarly, I found the discussions on interpretation in archeology of Ian Hodder (1996) of intriguing inspiration, partly in its recognition of the material value, on apar with a symbolic value, of an artifact. I found the issue of interpretation in archeology as oddly parallel to mine, a key difference being possibly that where the archeologist may

have five scorned pieces of crushed ceramic, the MNC researcher sits before a heap of five thousand artifacts. The parallel is twofold. First, the starting point of the researcher's experience of the individual artifact, or recorded event (Tsoukas 1994), and the ensuing task of developing a contextual interpretation of the artifact. Second, that Hodder (1996) suggests being open for several perspectives in the interpretation. In his case both material, functional interpretations as well as symbolic, immaterial interpretations. While studying objects in the form of artifacts, our ways of understanding are (plural) intersubjective, socially constructed and thus contextually determined. Such, by necessity partial, explanations may be confronted and a fuller understanding arrived at.

### *The theoretical importance of being a gradualist*

The possible *conceptual* contributions require some background. The distinction between punctuation and gradual internal adaptation is sometimes reduced to an 'empirical matter' (Van de Ven and Poole 1995), or a matter of hierarchical level of analysis (McKelvey 1994). The issue would be an empirical matter if the choice between the two variants of change theory would be a matter of situational conditions. This is an argument that must be acknowledged, and I have earlier discussed some possible conditions for the gradualist transformation process. The issue certainly merits further attention, for example through a comparative study across industries, which could have the potential to assess the importance of industry structural effects on the nature of transformational change.

Another possible route to argue for the differences being an empirical matter would be to search in the methodologies employed - are different research methodologies biased in their findings concerning punctuational or gradual transformation processes? A possible source of the sometimes violent claims of different groups of researchers arguing for distinctly different types of strategic change is the research methodologies employed. The issue here is whether and to what consequences quantitative and detached relative to qualitative and in depth research approaches present a bias in research findings. Many advocates of a punctuated equilibrium perspective have used quantitative cross sectional studies based on information collected at a distance. Such are Danny Miller's studies underlying the quantum perspective (Miller and Mintzberg 1983, Miller and Friesen 1984) and such is the case for arguments for punctuated equilibrium (for example, Romanelli and Tushman 1994). On the other hand, the empirical research cited concerning the gradual nature of the globalization process of MNCs, is based on close-range, in-depth,

longitudinal case studies or clinical work (e.g. the Alfa-Laval study of this volume, Bartlett and Ghoshal 1989, Doz and Prahalad 1987, Malnight 1996, see also Chandler, 1990). Measuring on distance, can certainly pick up the larger events, and, above all, provides a reasonably economical way of conducting research. The more subtle passages and interlinkages between processes does present a problem when measuring on distance. Longitudinal case studies may identify the 'punctuation' and deliver a processual context and thus, a more profound understanding of the transformational process. If the longitudinal study can record punctuation as well as gradual process and combine them into a common image then the issue of gradual vs punctuation may not simply be and 'empirical matter'. A far-reaching conclusion would be that a gradual perspective encompasses the punctuation perspective. An intense period of multilevel changes may well be part of a transformation process, but a full understanding of the mechanisms and conditions for that change requires an long-term perspective. Looking at the punctuation only gives an incomplete picture of the events.

A central theme for a theoretical debate would the perception of plasticity of organizations. This would certainly merit more attention than I have been able to give the topic in this study. It is a key demarcation line between the two options: punctuation hinges upon inert forms while gradual change depends on the plasticity of form.

### **The role of leadership in evolutionary transformation**

This piece does not contain a full account of leadership issues, but some afterthoughts on the role of management in the transformative change process. Arguing for extended, evolutionary transformation implies a reinterpreted role of leadership. Weick (1976, p8) reaches an interesting and provocative conclusion in that the loosely coupled system is

*"a nonrational system of fund allocation and therefore unspecifiable, unmodifiable, and incapable of being used as means of change".*

In fact there is a debate in strategic management ranging between arguments for the non-contributive intervention of any leadership, to the necessity of a strong forceful formulation and implementation of strategic change. One line in the debate argues that evolution in its profoundest is non-manageable (e.g. Chia 1999). Leadership intervention in the evolutionary process could possibly be disturbing, but hardly contributive.

From a traditional (normative) structural intentionalist perspective this is quite depressing since change then cannot be directed at will, but happens rather voluntarily. Evolutionary change may be slow and incorporate trial and error, as well as disparate responses that may be detrimental to the whole.

The rapid change of the configuration-transition perspective (Miller and Mintzberg 1983) seems to imply a near-planning view of the change. A quick revolutionary change implies a formulation of where to go, an action-plan and an implementation period. All which implies a top-down perspective on the change. What emerges is a quite 'classic' view of the role of management; as prime analytical thinkers, strategic decision makers and forceful implementers of a decided upon solution to the identified problem. A traditional engineering-like perspective on the role of executive management. Without such a perspective on management it is difficult to envisage the functioning of the short, dramatic upheaval. If the coherence of the initial form has been lost, the deep structure has come undone.

A 'gradualist' perspective of transformative change does not necessarily imply a non-governable process. But it does need consideration as to the content of the 'visible hand' of managers.

*"I find that the Darwinian framework does not take managers out of responsibility and control for organizational success. It does, however, point their thinking in a more constructive direction for many circumstances". McKelvey (1994, p322)*

With the punctuation equilibrium perspective one could draw the conclusion that executives should strive for very intense, short and dramatic change models. The evolutionary interpretation would be that the change period can be intense and short *because* there is a long preceding history. The variance building and instigated selection process prepares the organization for the more dramatic changes. Even more strongly put: short periods are only possible when there is an existing, feasible and for the organization credible, alternative course of action.

### **Concluding remarks**

Revolution may be produced by evolution. Pervasive structural arrangements of international management may be transformed through long and ordered change

processes. A gradual evolutionary transformation is, however, not easily accomplished. It requires a transformation process of longevity and complexity through divergence and convergence where arising internal tensions risk to halt the process and where external sharp discontinuities risk foreclosing the change.

To end this long deliberation one could either listen to the member of Swedish Academy Torgny Lindgren who in his book 'Hummelhonung' laments the inability of the human soul to grasp the slow, fundamental processes of change, or, one could cite two undoubtedly very successful businessmen who managed the extended and ordered (re)creation of the great American motorcycle company:

*"...meaningful and positive change comes slowly."*

Rich Teerlink and Lee Ozley (2000, p4)

But then, one could ideally be so incessantly in exchange with the world that the need for a 'revolution' does not arise...





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Appendix A. Key actions and events in the chronological development 1968-1991. (situational description in *italics*)

	Business, Technology and Operations	Organization	Administration	Social systems
1968		"sectorization" of domestic operations in parent company; Agri, Tumba and Lund.		
1969	Car body mfg divested			
1970	<i>15000 employees (35% of which in Sweden)</i> , Jakob Wallenberg resigns from the board of directors, greek alpha logotype introduced, Monza (Italy) office	First non-domestic units (acquired Danish factories) under divisional control	Economic Reports Manual introduced	
1971	Bergedorf (Germany) site left for Glinde office	Separation and Marine and Power divisions (Tumba), Dairy & Food and PHE departments (Lund), Germany: Agrar operationally and legally separated from Industrietechnik		First official appointment of Executive Management Committee: Hans Stahle, Harry Faulkner becomes deputy managing director with joint responsibility for foreign subsidiaries, administration and finance director and sales director (left around 1971), Lars Halldén appointed manager of the Lund division
1972	<i>Agri represents 35% of Alfa-Laval sales</i>			
1973	Stal Refrigeration acquisition	Lund division divided into three profit centers: Food, Thermal and Components		
1974	Agri Farm Center built in Tumba 1974-75	Electronic systems department in Lund		

	Business, Technology and Operations	Organization	Administration	Social systems
1975	<i>Domestic markets 17% of sales, New competitors emerging over the 1970s: Mitsubishi (Jap), Hisaka (Japan), Trenter (US)</i>			
1976	Closure of tank production in subsidiaries in the second half of the 1970s			
1977	Les Clayes sous Bois (France) office			
1978	Tumba peak: 2250 employees, food systems centralized to Lund	Formation of domestic divisions essentially finalized		
1979	Ewos acquisition, Fort Lee (US) office, international price list in Marine and Power	Major restructuring into Business Groups; Agri (internally divisionalized), Industry (internal international matrix) and Other companies (conglomerate), Agri and Industry to be global product divisions, demands on uniform foreign subsidiary organization, foreign subsidiary manager to be "king of the country"	Set of four formal measurements introduced	Parent company and Business Group managers in VL, "governor" in the VL for foreign subsidiaries, Lennart Berglind head of Agri, Lars Halldén head of Industry, Harry Faulkner in practice head of Other Group
1980	SMV shop to Kyoto (Japan), industrial hotel production structure attempted, new British "Alfa Tower" in Brentford		BCG study, around 100 units reporting to corporate office, revision of VL instructions	Harry Faulkner becomes managing director, Hans Stahle chairman.



	Business, Technology and Operations	Organization	Administration	Social systems
1981	18500 employees (of which almost 40% in Sweden), Bran+Lubbe acquisition (Hamburg, Germany), corporate image campaign, Maarsen (Holland) office			
1982	16% devaluation of the Swedish currency, Chemap (Swi) acquisition - part of the biotechnology investments in the first half of the 1980s	UK: Agri and Industry local operating divisions, US: dedicated "king of the country" with US Agri and Industry groups	Divisional build-up of information processing capability 1982-85	
1983	"Record year" profitability, introduction of shares on the London Stock Exchange, product quality problems lead to quality campaign, financial center located in Brussels, non-domestic personnel staff located in London	Incorporation of domestic product divisions; F&D, M&P, Flow, S, T and Agri	International clearing house for internal invoices, centralized currency exposure introduced, leasing company formed, international standardization of information systems hardware	
1984	Sharp decline in profitability; Agri and dairy affected by EC, Saudi Arabia problems, Alfa Laval Contracting closed, Lundberg buys 17% share in the company, Corporate management moves to Alvik	Parent company staff reduction	Alfa-Laval Bank formed	Corporate mission project: Harry's little blue

	Business, Technology and Operations	Organization	Administration	Social systems
1985	<i>Domestic markets 10% of sales, deregulation of Swedish capital markets, Lundberg takes seat on the board of directors, rationalization project of international separation manufacturing 1985-87 resulting in specialized plants in Tumba (Swe), Monza (Ita) and Madrid (Spain), Agri restructuring 1985-87</i>		Outsourcing decision: central mainframe capacity closed	
1986	<i>15500 employees (35% in Sweden), explicit acquisitions policy; SattControl (Sweden), TriClover (US) acquisitions, beginning of pumping technology and related investments</i>	Major restructuring into twelve Business Areas (global product divisions), business areas given formal responsibility for strategy formation, reorganization in Thermal Engineering, SattControl and systems automation parts of Food are merged to form Automation business area, Flow Equipment business area formed and based in Brussels	Business areas to be responsible for global business strategy, goals and budget, Billion Crown Challenge launched - set of accounting and finance task forces	CEO (Harry Faulkner), COO (Lars Halldén) and CFO (Lars Trane) forms reformed and dedicated corporate management (KL), GMR in the KL for the foreign subsidiaries
1987	Technicon (US), Euroheat (Sweden), Saunders (GB) and Formax (US) acquisitions, beginning of convenience food investments, Agri starts European logistics network project, Nordic separator warehouse and logistics	Negotiations for commercial agreements between business areas commenced, local holding companies formed, reorganization in Food Engineering, dedicated Food, Separation and Thermal market companies in the US	Finance ultimately centralized to corporate office, ALNET/ MISAL international telecom information network	Agri manager, Leif Rogersson, made fourth member of KL, Agri and Thermal international culture projects

	Business, Technology and Operations	Organization	Administration	Social systems
1988	Sharples acquisition	Fewer business areas: Marine & Power and Separation engineering business areas merge, Biotech closed, Ewos divested, Tech closed, Swedish marketing organization becomes symmetrical to other national organizations	Business areas and MMCs measured on operating result, i.e. no longer on financial performance	
1989	<i>profits exceed 1BSEK</i> , Krämer+Grebe, Mark, Ladish acquisitions	Dedicated Food Engineering market company in Germany and France, remaining corporate technical staff closed	MISAL introduced	Harry Faulkner leaves the firm in may succeeded by Lars Kylberg, Hans Stahle dies in october, KL now includes COO, CFO, Agri-, Food-, and information managers
1990	<i>21000 employees (of which 25% in Sweden), Agri represents 20% of Alfa-Laval sales</i> , TW Kutter (US), Hedemora (Swe), Artec (Ita) acquisitions	Local after sales business transferred to local divisional market companies	around 300 units filing periodical reports to corporate office	
1991	Alfa-Laval AB is acquired by Tetrapak			

## Appendix B. List of acquisitions 1970-1990

		Turnover	Alfa Laval acquiring unit
1971	<b>Lavrids Knudsen Maskinfabrik</b>		Lund/Flow
1973	<b>Stal Refrigeration AB</b> , Sweden, cooling systems, e.g. for warehouses and ships, Alfa-Laval had earlier 25% minority holding, from ASEA		
1977	<b>Ibex Engineering</b> , pumps		Flow
1979	<b>Ewos</b> , Sweden, animal health and nutrition	137 MSEK	Corporate/Other
1981	<b>Bran+Lubbe</b> , Germany, dosing and analysing equipment	209 MSEK	Ind
	<b>Svenska Rotor Maskiner AB</b> , Sweden, thermal technology and rotary machines, "closely related areas of technical competence"		Corporate/Other
1982	<b>Chemap</b> , Switzerland,	~100 MSEK (30 MCHF)	Bio
1983	<b>Fluid Operations Equipment Inc.</b> , USA, automating systems for process control in dairy and food industry	~25 MSEK (5 MUSD)	
	<b>Square Company</b> , Sweden, forming and frying equipment	25 MSEK	
	<b>Industrie Automation Wäge- und Prozesstechnik GmbH</b> , Germany, automation of weighing and mixing systems	~60 MSEK (20 MSEK)	B+L
1984	<b>Cashin Inc.</b> , USA, leading in the US for slicing and weighing of bacon and other meats	~60 MSEK (10 MUSD)	F
	<b>West Agro</b> , Kansas City, MO, agricultural hygiene,		
1986	<b>SattControl</b> , Sweden, electronic production process control	500 MSEK	Corporate/Auto
	<b>Reginox</b> , Brazil,	50 MSEK	Flow
	<b>TriClover</b> , USA, pumps	350 MSEK	Flow

1987	<b>Technicon Industrial Group, USA,</b>	340 MSEK	D&A
	<b>Euroheat, Sweden, heat exchangers for district heating</b>	240 MSEK	T
	<b>Atlas Desalination, Denmark, desalination for marine and off shore uses</b>	70 MSEK	S (M&P)
	<b>Saunders Valve, Great Britain, world leader in membrane valves</b>	300 MSEK	Flow
	<b>SSP Pumps, Great Britain, "lobrotorpumpar"</b>	50 MSEK	Flow
	<b>MPL Pumps, Great Britain, dosing pumps</b>	40 MSEK	D&A
	<b>MGI, USA, market company for SSP Pumps</b>	50 MSEK	Flow
	<b>Formax, USA, hamburger machines</b>	200 MSEK	F
	<b>Heat Transfer, Australia, tube heat exchangers for aseptic</b>		F
1988	<b>Ewos <u>divested</u>, animal health and nutrition</b>	495 MSEK	
	<b>Koppens Machinefabriek, the Netherlands, convenience food</b>	200 MSEK	F
	<b>Sharples, USA, decanter centrifuges</b>	630 MSEK	S
	<b>Koltek Oy, Finland, becomes market company for Flow Equipment in Finland</b>		Flow
	<b>Labora AB, Sweden, instruments and supplies for laboratories in Sweden</b>		Z&I
	<b>AB Albia, Sweden, cleaning of pulp</b>		Z&I
	<b>Mark S.p.A., Italy, ice cream machines,</b>	125 MSEK	F
	<b>Krämer + Grebe, Germany, convenience food</b>	400 MSEK	F
	<b>Equipment Engineering, USA, separator service</b>	60 MSEK	F
1989	<b>Universal Dairy Equipment, USA, milking machines</b>	70 MSEK	A
	<b>Moatti, France, filters</b>	30 MSEK	S
	<b>Ladish, Canada,</b>	100 MSEK	Flow
	<b>Cardinal Systems, USA,</b>	30 MSEK	Flow
	<b>TW Kutter, USA, engineering and distribution of food processing equipment; convenience food</b>	300 MSEK	F
	<b>Hedemora, Sweden, separation for pulp and paper industry, forms Celleco-Hedemora AB</b>	250 MSEK	Ind
	<b>Artec, Italy, heat exchangers for refrigeration market</b>	200 MSEK	T
	<b>CIVA, Brazil, membrane valves</b>		Flow

The above list has served as a basis for calculating the cumulative sales of acquired units (Figure 5.4). For each year, the sum of yearly sales of acquired companies has been calculated, and estimated to have grown with the corporate CAGR 1980 to 1990. This

should be a conservative assumption, given the mature nature of the core businesses. When actual sales development has been possible to establish, the actual figures have been used in lieu of the estimate (Ewos, Bran+Lubbe).

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