"BUILDING TRANSNATIONAL CAPABILITIES: THE MANAGEMENT CHALLENGE"

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Building Transnational Capabilities: The Management Challenge

The transnational corporation in the 1990's is markedly different from its ancestors of the pre-World War II era, and even from its immediate predecessors of the 1960's and 1970's. Over the last decade, it has been transformed by an environment in which multiple, often conflicting forces were accelerating simultaneously. The globalization of markets, the acceleration of product and technology life cycles, the renewed assertion of national government demands and, above all, the intensification of global competition made the 1980's a decade of complexity, diversity and change for most worldwide firms.

The fast changing external environment has forced most companies to reassess their strategic postures and competitive capabilities. The ability to compete on the basis of a single dominant competitive advantage such as low cost or advanced technology has given way to a need to develop multiple strategic competencies: to win in the 1990's, a company has to simultaneously build global scale efficiency and competitiveness, national responsiveness and flexibility, and the ability to create innovations and leverage learning on a worldwide basis.

In turn, these new strategic task demands have put pressure on the organizational structures and management processes of firms. Traditional hierarchic structures with their emphasis on either-or choices between centralization and decentralization or between primacy of product versus geographic divisions have evolved toward organizational forms we have described elsewhere as the "transnational", characterized by an integrated network of assets and resources, multidimensional management perspectives and capabilities, and a set of flexible and differentiated coordination processes.[1]

The management implications of all this change are enormous. To succeed in the worldwide operating environment of the 1990's, managers must be able to sense and interpret the complex and dynamic pattern of environmental changes; they must be able to develop and integrate the multiple strategic competencies; and they must be able to build and manage the complex yet subtle new organizations required to link these dispersed sensing and response capabilities and deliver coordinated action on a worldwide basis. Unless those in key management positions recognize the

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[1] See C.A. Bartlett and S. Ghoshal, Managing Across Borders: The Transnational Solution, Harvard Business School Press, Boston, 1989.

demands of these new roles and responsibilities and possess the skills and knowledge necessary to execute these tasks, companies simply cannot respond to the major new challenges they face.

Yet, surprisingly little attention has been devoted to the study of the implications of these changes on the roles and tasks of those who manage today's transnational corporations. Academics, consultants, and even managers themselves have focused an enormous amount of time and energy on analyzing the various international environmental forces, refining the concepts of global strategy and, more recently, on understanding the characteristics of effective transnational organizations. But without effective managers in place, sophisticated strategies and subtle organizations will fail, and the great risk of the 1990's is that companies are trying to implement third-generation strategies through second-generation organizations with first-generation managers.

In this article, we will examine the management roles and responsibilities implied by the new challenges facing today's worldwide corporations - those that take the manager beyond the first-generation assumptions. The tasks differ considerably for those in different parts of the organization. So, rather than generalizing, we will focus on the core responsibilities of the two key management groups that drive the operations in most transnational organizations: global business or product division managers and geographic managers in charge of specific countries or regions.

But, while these two management groups provide the anchors on which the transnational corporation builds its worldwide strategic and organizational effectiveness, the management challenge is far more extreme for the corporate top management who must integrate and provide direction for both the groups and, in so doing, must also break with many of the norms and traditions that historically defined their roles. In the concluding section of this article we will describe the subtle and complex responsibilities of top management in balancing the organizational complexity and diversity of the transnational.

Global Business Management

The challenge of developing global efficiency and competitiveness requires management to capture the various scale and scope economies available to an international company as well as capitalizing on the potential competitive advantages inherent in its worldwide market positioning. This demands a perspective that can see opportunities and risks across national boundaries and functional specialities, and the skill to coordinate and integrate activities across these barriers to capture the potential benefits. This is the fundamental task of the global business or product division manager in the transnational company.

The case of the household appliance division of Electrolux, the diversified Swedish multinational, provides a good illustration of the strategic significance of this task. In 1987, having made nearly a hundred acquisitions in the preceding eight years, this key product division of Elextrolux found itself with a portfolio of over twenty major brands, two hundred and fifty production plants and a bewildering assortment of development groups spread over forty countries. Some of the brands provided umbrella coverage of multiple product lines while others were product or category specific; some brands had a regional or even global presence while others were strictly national or even regional within specific countries. The manufacturing facilities ranged from some of Elextrolux's own high capacity, fully automated technology showcases to geriatric investment starved plants of acquired companies that had made little progress from the metalbashing workshops that they had started their lives as. National market positions were of similarly varying quality, ranging from the image of high quality conservative elegance that the Electrolux brand enjoyed in Scandinavia, and the innovative, trend-setter reputation of the Zanussi brand in Southern Europe, to the stodgy middle-market image of Authur Martin in France and of Boppas in Norway[2].

From this mish-mash of assets and resources, by 1990, under the leadership of Leif Johansson - then head of this division and now President of the company - Electrolux has developed a clear blue-print of the global strategic positioning of this business that includes a specific plan for the roles of each brand, a rationalized scheme for value creation and delivery through dedicated development, component production, assembly and marketing units, and a specific allocation of activities and tasks among different organizational groups within the product division.

In implementing this transformation which is still under progress and has not been problem-free, Leif Johansson has had to initiate or become involved in a variety of diverse activities, the balance among which has changed considerably

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[2] See S. Ghoshal and P. Haspeslagh, "Electrolux : The Acquisition and Integration of Zanussi", INSEAD-CEDEP case, 1989

over time. Nonetheless, there are three key roles that he has had to play consistently which, we believe, are representative of the core responsibilities of the global business manager role: he has had to serve as the global business strategist, as the architect of the company's worldwide asset and resource configuration, and as the cross-border coordinator and controller.

Global Business Strategist

From the inception of the rationalization effort, a debate had sprung up within Electrolux about the multiplicity of brands the company had come to own through its various acquisitions. Beside the flagship brands of Electrolux, Zanussi, and White Consolidated, the three major constituents of the company, a large number of relatively small volume national brands owned by different country units had begun to cause severe problems in product development, manufacturing and marketing operations. Some senior managers, particularly those in the manufacturing and product development functions, argued for dropping all or most of these local brands so that the company could focus on building and supporting its global thrust with a handful of large volume, well-promoted regional or worldwide brand umbrellas. National marketing managers forcefully argued against this proposal, claiming the national brands as their key instruments for local market presence, distributor leverage and profitability.

Instead of trying to resolve this debate through a grand compromise or incremental attrition, as many other companies have done, Leif Johansson initiated an overall strategy review with a detailed and worldwide customer analysis serving as its fundamental building block.

Detailed analysis of a host of purchase criteria of customers revealed four key image dimensions that were labelled as prestigious, young and aggressive, warm and friendly, and innovators. These dimensions maximally discriminated the preferences of different customer groups and it was decided to make these dimensions the basis for positioning and differentiating the different brands of the company.

A second analysis of price-feature preferences confirmed two trends that were increasingly manifest from Electrolux's internal sales data. On the one hand, each national market was becoming increasingly more segmented. On the other hand, segments across national markets were converging toward greater homogeneity. This analysis confirmed the advantages of positioning a broad range of brands in each market, to benefit from the increasing fragmentation of national demands, but suggested the possibility that some or many of those brands could also be marketed globally or at least regionally to exploit international convergence in preferences.

A more fine-grained analysis of this last issue - the opportunity for building global or regional brands - revealed another interesting feature of the household appliances market. While some upper-income, globe trotting customers did prefer brands they were exposed to in foreign markets, others were more accustomed to local brands they knew from childhood. "Localness", however, was perceived primarily in terms of the brand name, the channel through which the products were sold (local stores rather than large chain outlets), the way the products were promoted (local newspapers instead of global or national magazines), the nature of after-sales service, and other such features of the broad offering, and not in terms of any specifics of the product's features or design.

These different conclusions collectively led to the core of Electrolux's new worldwide business strategy for the household appliances division. Each brand and the related brand company was allocated a specific role. For example, within Europe, the Electrolux and Zanussi brands were allocated full-line, regional roles: each would cover all or most of the product categories (refrigerators, ovens, washers, driers, etc.) and each would be promoted and supported in all major European markets. Each brand was also given a specific mandate in terms of image and customer category: the Electrolux brand would focus on customers valuing the prestige dimension, Zanussi would appeal to those who wanted innovative offerings. The other brands were given national roles and were positioned in either the "young and aggressive" or the "warm and friendly" segments. However, their 'national' image would be maintained and strengthened primarily through channel, promotion, and service strategies: the products themselves would be so designed as to be local in Sweden under the Husqvarna brand name and in France under the Arthur Martin brand name. By standardizing the products across the different national brands, they could be produced in high volume in specialized plants thus leading to scale economies in production going hand in hand with the differentiation advantage of localness. Overall, Electrolux would have four brands in each national market, covering all key customer segments, two of which would be regional and potentially global brands while the other two would be national. Yet, there would be no efficiency penalty in product development or manufacturing.

This role of the worldwide business strategist does not imply that the global business manager alone has the perspective and capability to formulate product or business level strategy, or that he or she should undertake this vital task unilaterally. Depending on the nature of the business there will almost certainly be some need to incorporate the perspectives of geographic and functional managers who will represent strategic interests that may run counter to the business manager's drive to maximize global efficiency. In the course of evolving the new strategic approach, Leif Johansson, for example, continuously obtained the counsel of his country managers and in fact created a special forum called the "1992 Group" to institutionalize their inputs into the process that led to the strategy. At the same time he created a set of product councils with the membership of key manufacturing and product development managers and ensured their ability to contribute to the strategic analysis. Further, it is equally important that the business strategy must fit within the broader corporate strategy that should provide a clear vision of what the company wants to be and explicit values on how it will accomplish its mission. In the final analysis, however, the responsibility to integrate the different views and reconcile the diverse interests will fall to the global business manager who must bear the ultimate responsibility for developing an integrated strategy of how the company will compete in his or her particular business.

In many companies, the business manager's ability to do so is compromised by the fact that the position is created by anointing domestic product division managers with the title of global business manager. Overseas subsidiary managers often feel that these managers not only are insensitive to non-domestic perspectives and interests, but that they bias key strategic decisions like product development and capacity plans toward the domestic organization. In the true transnational company, the global business manager need not be located in the home country, and in many cases great benefits can accrue to relocating several such management groups abroad. Asea Brown Boveri (ABB), the leading electrical engineering company, has deliberately tried to leverage the capabilities of its strong operating companies worldwide and exploit their location in key strategic markets by locating its worldwide business managers wherever such strategic and organizational dimensions coincide. In its global power transmission business, for example, the business area manager for switchgear is located in Sweden, for power transformers in Germany, for distribution transformers in Norway, and for electric metering in the United States. Even well established multinationals with a tradition of close headquarter control of worldwide business strategy are changing to this approach. The head of IBM's $6 billion telecommunications business recently moved her division headquarters to London. She explained that the rational was not only to move the command center closer to the booming European market for computer networking, but also "to give us a different perspective on all our markets".

Architect of Asset Configuration

Closely tied to the challenge of shaping an integrated business strategy is the global business manager's responsibility for coordinating the distribution of key assets and resources in a configuration that supports the strategic objective. Again, as in many other key decisions in transnational companies, this does not mean that he or she can take such decisions unilaterally: the inputs of interested geographic and functional managers must also be weighed. It is the global business manager, however, who is normally best placed to initiate and lead the debate on asset configuration, perhaps through a global strategy committee or a world board with membership drawn from key geographic and functional management groups. Because the allocation of capital is normally a top management decision, the proposals of such groups will typically be escalated for approval.

In deciding where to locate key plants or develop vital resources, the business manager cannot assume a zero-base. Indeed such decisions must be rooted in the company's administrative heritage. In companies like Philips, Unilever, ICI or Nestlé, many of the key assets and resources that permitted these companies to compete internationally have long been located in different national operations. Any business manager trying to shape such companies' future configuration must build on rather than ignore or destroy the important benefits that such dispersed assets and resources represent.

In the case of Electrolux, having developed a rationalization plan around the brand strategy, the company had to create a strategic architecture of product development and manufacturing facilities that would allow exploitation of volume and standardization economics and also leverage the strengths of the different acquired companies. While the objective was to achieve the highest level of specialization on a "one product, one facility" rule at least within Europe, Leif Johansson insisted on a few clear principles to guide the process.

First, the company decided to avoid concentration of facilities in any one country or region. Scandinavia, its home, was no exception to the rule. As far as possible, some significant development and manufacturing tasks were allocated to each of the company's major markets. The objective was to seek long-term robustness rather than minimum short-term costs. By distributing costs in some proportion to national revenues, such a dispersed system would be less vulnerable to exchange rate fluctuations. Even political uncertainties would be more manageable since the local development and manufacturing facilities would ensure preferred market access. Further, management and technical resources could be tapped more easily in different countries and dependence on the limited pool of skilled personnel in Sweden would be diminished. At the same time, by specializing each unit to meet Europe-wide requirements for a particular product line, the highest possible scale economies would be available.

Second, Johansson insisted on using existing facilities as far as possible so as to minimize disruption and organizational trauma. The objective was to upgrade and specialize existing facilities rather than closing down old plants, even if they were located in relatively high cost locations. Beside the desire to avoid concentration of facilities in any one region, Johansson believed that building on existing capabilities would be administratively easier to implement compared to developing new facilities from scratch. Thus, instead of building a new washing machine factory, the company decided to invest a massive 200 billion lire in the existing plant in Porcia - the largest single investment project in the history of Electrolux - to create the world's largest washing machine manufacturing unit capable of producing 1.5 million units per year.

Finally, in allocating specific tasks and responsibilities to particular organizational units, primary importance was given to the unit's distinctive competencies rather than to its proximity to the headquarters or any other political consideration. While redundancy and overcapacity is often an inevitable consequence of acquisition-fuelled growth, such a process of expansion also brings into a company an amazing diversity of resources and capabilities. Instead of eliminating such diversity through homogenization or centralization, Electrolux decided to leverage such diversity by matching each unit's responsibilities with its specific competency. Scandinavian flair for modular design, for example, made the Swedish and Finnish organizations particularly suitable for taking over Europe-wide responsibility for the "integrated kitchen system" business; Zanussi's long experience in component production was rewarded by consolidating design and production of compressors in Italy.

These three guiding principles of dispersal, building on existing capabilities, and competency-matching led Electrolux to developing a strategic infrastructure of distributed, specialized and integrated assets and resources that was simultaneously efficient and robust to environmental shifts, and to which all organizational units could commit since it provided them with the opportunity to protect, enhance and exploit their own distinctive capabilities.

Cross-Border Coordinator

The task of coordinating flows of materials, components and finished products becomes extremely complex in companies that develop the kind of distributed and specialized configuration of assets and capabilities Electrolux has built. Thirty-five different national marketing companies sourcing products from twenty-nine different facilities creates an intricate web of system-wide interdependencies: the fact that each of these sixty-four units is trying to improve its financial results converts these interdependencies into potential sources of tension and conflict. Herein lies the third key role of worldwide business managers: that of cross-border coordinator. Although less overtly strategic than the other two responsibilities, it is nonetheless a vital operating function since it involves not only the task of deciding sourcing patterns and cross-border transfer policies and mechanisms but also the challenges of ensuring worldwide coherence in the implementation of product and marketing strategies.

For cross-border transfer policies, the coordination mechanisms available to the global business manager vary from direct control over quantities shipped and prices charged to the establishment of rules that essentially create an internal market to direct such flows. The former leads to an unambiguous albeit somewhat inflexible and insensitive system that may be more appropriate in situations of product shortage or for components of high strategic importance (for example, pharmaceutical companies' control over quantities and pricing of shipments of the active ingredients of patented drugs or Coca-Cola's coordination of the supply of coke syrup world-wide). The latter mechanism creates greater sensitivity to competitive conditions set by the external environment but at the cost of greater ambiguity, internal negotiations and potential conflict. Such internal markets may be more suitable for commodity-like products. In many cases, however, the business manager may opt for a mix of these mechanisms. In Electrolux, for example, Leif Johansson, in consultation with key managers, set a broad band of transfer prices for each product that typically remained valid for a year. Within this band, prices could be directly negotiated by the internal suppliers and customers; special situations requiring transfer prices outside this range required Johansson's approval.

While coordination of cross-border transfers require the establishment of policies and the management of exceptions, managing the cohesion of overall worldwide product and market strategies require a set of integrative forums and flexible management processes that the worldwide business manager must create and supervise. Electrolux has developed a range of coordination forums and decision making mechanisms to manage these interdependencies with flexibility and speed.

At the market end, the key focus of Electrolux's strategy lies in brand management. As we have described earlier, Electrolux has developed four brand umbrellas - two global or regional and two national - each targeted to a specific customer segment. One key requirement of this strategy is to protect the image and positioning of each brand so as to avoid overlap that could dilute their distinctiveness. To deal with this issue, Johansson has established two coordination groups, one each for the two regional brands. Each group, consisting of the managers of the relevant sales companies in key countries and chaired by the corporate marketing development manager for Europe, is responsible for developing and maintaining a coherent strategy for the brand on a pan-European basis. At present this coordination is limited to Europe, but it can be extended worldwide, as the need arises.

The same function is served by the Product Area Boards for coordination across product categories. Each product area has its own board, consisting of relevant product managers and each is chaired by the concerned corporate product area manager. The boards have two key mandates - to manage overall product strategies, and to exploit all available synergies. For example, the boards pay considerable attention to improving the quality and reducing the costs of externally purchased components and parts, sharing information on vendors and clubbing orders wherever appropriate. They are also involved in coordinating development and manufacture of new products. Among their major successes, for example, is the "Quattro 500" fridge-freezer, the introduction of which was managed by the related product area board. Designed in Italy, manufactured in Finland and marketed in Sweden, this new "international" product is often cited by Johansson as a classic example of how the company must function in the future.

Finally, the "1992 Group" is another such forum created for overall strategic coordination of the business. Capturing the symbolic value of 1992 in its name, this committee is chaired by Leif Johansson personally and consists of the managers responsible for this division in Italy, the U.K., Spain, the United States, France, Switzerland and Sweden. This group periodically reviews the division's consolidated results as well as its overall manufacturing and marketing infrastructure. It also supervises major development programmes and key investment projects.

Geographic Subsidiary Management

In most worldwide companies, a successful tour as a country subsidiary manager is often thought of as the acid test of general management potential. Indeed it is often a necessary qualification on the resumé of any candidate for a top corporate management position. Not only does it provide front-line exposure to the realities of the company's international operating environment, but it also puts the individual in a position where he or she must deal with enormous strategic complexity from an organizational position that is severely constrained.

We have described the strategic challenge facing the transnational as one of resolving the conflicting demands for global efficiency, multinational responsiveness, and worldwide learning. The country manager sits at the center of this strategic tension, since it is at the level of the national subsidiary that the company must defend its market positions against global competitors, satisfy the demands of the host government, respond to the unique needs of local customers, and leverage its local resources and capabilities to strengthen the company's competitive position worldwide.

While the specific activities and tasks of the country manager vary widely depending on the nature of the company's business, the relative age, size and strategic role of the subsidiary, and a host of other similar factors, we have identified three core responsibilities that capture the complexity of the task and highlight its important linkage role within the company. First, the country manager must act as a bicultural interpreter, acting as a two-way cultural conductor between the headquarters and the national subsidiary. Second, she must become the chief advocate and defender of national needs, representing the interests of local customers and other stakeholders within the company's decision-making processes. Finally, she must also carry out the vital front-line responsibility as local implementer of the company's worldwide strategy.

Bi-Cultural Interpreter

The need for the country manager to become the local expert who understands the needs of the local market, the strategy of competitors and the demands of the host government is clear. But his or her responsibilities are much broader than this. Because managers at headquarters do not understand the environmental and cultural differences in the company's diverse foreign markets, the country manager must be able to analyze the information gathered, interpret the implications, and even predict the range of feasible outcomes implied by the locally-gathered intelligence. This role suggests an ability not only to act as an efficient sensor of the national environment, but also to become a cultural interpreter able to communicate the importance of that information to those whose perceptions may be obscured by ethnocentric biases.

The experiences of Howard Goettlib, general manager of NEC's U.S. subsidiary for the switching systems business, illustrates the challenges of these sensing and interpretation tasks. Charged with the responsibility of developing the U.S. market for the company's telecommunications switching equipments, Goettlib confronted a situation in which a product - NEAC 61, NEC's digital switch - was widely acclaimed for its technological sophistication and yet sales lagged expectations.

Goettlib's personal experience of the market combined with detailed discussions with the user community soon revealed the causes for poor sales. The switch, developed by NEC in Japan, was designed for the Japanese market and lacked many of the features demanded by U.S. customers. The problem arose from a host of contextual differences between the Japanese and the U.S. markets: environmental factors such as a different power distribution system in the U.S. created alternating current induction problems that affected the switch's performance; designed for NTT, the monopoly operating company in Japan, the switch did not have the protocol conversions necessary for distributing revenues among the multiple operating companies that might be involved in processing a single long distance call in the U.S.; and prepared for the highly skilled and experienced NTT engineers, the product specification brochures and other documentation were inappropriate for the lower skilled operators who typically carried out similar jobs in the U.S. operating companies.

Identifying these mismatches between the Japanese designed product and the needs of his local market was the first and the relatively easier part of Goettlib's tasks. Communicating the problems to the headquarters and eliciting effective response proved to be considerably more challenging. Used to decade-long ties with NTT and to the processes of intense cooperation and mutual adjustment among buyers and sellers in Japan, corporate management's perception of the problems and the ways in which they might be resolved differed considerably from the norms and expectations in the U.S. market. Further, a number of different management groups in NEC's headquarters had to be convinced for making the required changes and the perspectives and approaches of these groups varied widely. Not only did Goettlib have to bridge the gap between the norms and practices of the U.S. and the Japanese markets, he also had to translate the problems differently to get through the marketing, engineering, planning and production groups in the headoffice.

There is another aspect of the country manager's role as information broker that is sometimes ignored. Not only must the individual have a sensitivity to and understanding of the national context, he or she must also be comfortable in the corporate context of the company. As the key link between the parent and the often-isolated national organization, the country manager has the responsibility to ensure that the corporation's goals, strategies and values are clearly understood by a group of employees located thousands of miles away from the parent company. Again, the role implies much more than being an information conduit. The manager must interpret the company's broad goals and strategies so that they become meaningful objectives and priorities at the local level of operation, and must apply the corporate values and organizational processes in a way that respects local cultural norms.

National Defender and Advocate

As important as the communications role is as a means of educating and informing the organization, it is not sufficient for the country manager to act solely as an intelligent mailbox. It is important that the information and analysis conveyed to corporate headquarters is not only well understood, but is also taken into consideration in the company's important decision making processes. This is particularly important in companies where strong business managers are arguing for a more standardized global approach and corporate functional managers are focusing the attention of their local national counterparts on cross-border linkages. The country managers role is to counterbalance these centralizing tendencies, and ensure that the needs and opportunities that exist in the local environment are not only well understood but are also incorporated into corporate level decisions.

As the national organization evolves from its early independence to a more mature role as part of an integrated worldwide network of operations, the country manager's normal drive for national self-sufficiency and personal autonomy must be replaced by a less parochial perspective and a more corporate oriented identity. This does not imply, however, that he or she should stop presenting the local perspective to headquarters management or stop defending the national interests. Indeed, the company's very ability to become a truly transnational company depends on having strong advocates for the need to differentiate its operations locally and to be responsive to national demands and pressures.

Two distinct but related tasks are implied by this role. The first requires the country manager to ensure that the overall corporate strategies, policies and organizational processes are appropriate from the national organization's perspective. Where the interests of local constituencies are violated or where the subsidiary's position might be compromised by the global strategy, it is the country manager's responsibility to become the defender of national needs and perspectives.

While the NEAC 61 main switch was already in the market by the time Goettlib joined NECAM, the NEAC 61E adjunct switch was created in the course of his tenure in the company. While this product was also developed in Japan, the American subsidiary played an influential role in shaping not only the software but also the core design features of the switch. Goettlib sent teams of local engineers to Japan, to work together with the Japanese designers in the early stages of the product's development. Similarly, he also ensured visits by the headquarters design team to his local customers, so that the design concept could be checked against local needs. One of the consequences of these visits, for example, was a significant change in the installation system: while the original design would have required an installation team of six people working for four to six months to make the switch functional in the customer's premises, inputs from American engineers led to an installation process that could be completed by a three person team in one month.

In addition to defending the need for national differentiation and responsiveness, the country manager must also become an advocate for his or her national organization's role in the corporation's worldwide integrated system of which the unit is a part. As companies develop more of a transnational strategy, national organizations compete not only for corporate resources but also for roles in the global operations. To ensure that each unit's full potential is realized, country managers must be able to identify and represent their particular national organization's key assets and capabilities and the ways in which they could contribute to the company as a whole.

Returning again to NECAM for an example, Goettlib believed that software development represented such an opportunity for the American subsidiary. While scarce in Japan, skilled software engineers were available in the United States, though at higher costs. He first built a small software team to support local projects. Over time, this team developed a special software package for Sprint - a key U.S. customer - and Goettlib persuaded NEC to try the software in the company's subsidiaries in Malaysia and Thailand. The demonstrated success of the U.S. development in these foreign markets ultimately convinced NEC to locate a major software facility within NECAM and to allocate a global role to this facility for developing specialized software to meet NEC's worldwide needs.

Front-Line Implementer

While the implementation of corporate strategy may seem the most obvious of tasks for the manager of a front-line operating unit, it is by no means the easiest. The first challenge is provided by the multiplicity and diversity of constituents whose demands and pressures compete for the country manager's attention. Being a subsidiary of a distant foreign company seems to bestow a special status on many national organizations and subject them to a different and more intense-type of pressure than other local companies. Governments may be suspicious of their motives, unions may distrust their national commitments, and customers may misunderstand their way of operating. Compounding the problem is the fact that corporate management often underestimates the significance of these demands and pressures, especially if their understanding and interpretation is distorted by a cultural bias or a national insensitivity.

Second, the country manager's implementation task is complicated by the corporate expectation that she take the broad corporate goals and strategies and translate them into specific actions that are responsive to the needs of the national environment. These global strategies are usually complex and finely balanced, reflecting multiple conflicting demands. Having been developed through subtle internal negotiation, they often leave the country manager very little room for maneuvering.

Pressured from without and constrained from within, the country manager needs a keen administrative sense to plot the negotiating range in which he or she can operate. The action decided upon must be sensitive enough to respect the limits of the diverse local constituencies, pragmatic enough to achieve the expected corporate outcome, and creative enough to balance the diverse internal and external demands and constraints.

As if this were not enough, the task is made even more difficult by the fact that the country manager does not act solely as the implementer of corporate strategy. As we have described, she often plays a key role in its formulation. Thus the strategy the country manager is required to implement will inevitably reflect some decisions she had lobbied hard against. Once the final decision is taken, however, she must be able to convince her national organization to implement it with commitment and enthusiasm.

Corporate Top Management

In the 1960's and 70's, as increasingly complex hierarchical structures forced them further and further from the front line of their businesses, top-level corporate managers in large worldwide companies became immersed in a rising sea of systems and staff reports. As layers of management slowed decision-making and the corporate headquarters role of coordination and support evolved to one of control and interference, top management's attention was distracted from the external demands of customers and competitive pressures and began to focus internally on an increasingly bureaucratic process.

The transnational organization of the 1990s cannot afford to operate this way. Like executives at all levels of the organization, top management must add value and this means liberating rather than constraining the organization below them. It requires them to remove the bureaucracy that isolated them in the past, and get back in touch with the business and the front line organization.

But this is far from a simple task. Most businesses are now being forced to compete on the basis of multiple sources of competitive advantage and the organization required to provide that capability must be both multidimensional and flexible. For those at the top of the transnational, this means more than just creating a diverse set of business, functional and geographic management groups and assigning them specific roles and responsibilities. It also means maintaining the organizational legitimacy of each group, balancing and integrating their often divergent influences on the ongoing management processes, and maintaining an unifying sense of purpose and direction in the face of often-conflicting needs and priorities.

This constant balancing and integrating role is perhaps the most vital aspect of top management's job. It is reflected in the constant tension they feel between ensuring long-term viability yet achieving short-term results, or providing a clear overall corporate direction yet leaving sufficient room for the experimentation and challenge of conventional wisdom that drive corporate renewal. As manifest in the different approaches and styles of highly visible and widely acclaimed CEO's like Percy Barnavick at ABB, Andy Grove at Intel and Jack Welsch at GE, these tensions can be managed in many different ways. However, to focus on just one illustrative case, we will review the challenges of corporate top management in a worldwide company based on the experiences and actions of Jan Carlzon as the president and CEO of the Scandinavian Airlines System (SAS).[3]

When Carlzon assumed the presidency of SAS in August 1981, he inherited an airline that was close to bankruptcy. The company had posted hefty operating losses the preceding two years, and had been losing market share rapidly, even in its home territory. Its fleet mix and route network did not meet market needs and its reputation for service and punctuality was one of the worst in Europe. For example, on-time performance (defined as percentage of arrivals within 15 minutes of schedule) had slipped to 85%, an unacceptable level for an airline in a highly competitive market.

Over the last ten years, Carlzon has presided over a remarkable turnaround of the company: not only has the airline posted significant profits almost ever since Carlzon's arrival, its on-time performance has risen to 93%, a record in Europe, and it has emerged as Europe's leading carrier of full-fare traffic.

Despite these successes, dramatic as they have been, the company still faces considerable threats and some analysts question if it can survive as a viable competitor in the increasingly global and competitive airline industry. Few, however, question the contribution made by Carlzon in rescuing SAS from a nearly terminal situation and creating a strategic base that gives the company at least a fighting chance to succeed. In managing this process, Carlzon played three roles

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[3] See S. Ghoshal, "Scandinavian Airlines System (SAS) in 1988," INSEAD-CEDEP case, 1988

which we believe represent the core top management tasks in today's transnational companies. The first of these roles involves providing a long-term direction and purpose to the company and is in some ways counter-balanced by the second role which highlights the need to achieve current results by leveraging performance. The third key task of ensuring continuous renewal again focuses on long-term needs, but at the same time requires the organization to challenge its current direction and priorities.

Providing Direction and Purpose

In an organization built around the need for multidimensional strategic capabilities and the legitimacy of different management perspectives, the diversity and internal tension can create an exciting free market of competing ideas and can generate an enormous amount of individual and group motivation. But there is always a risk that these same powerful centrifugal forces could pull the company apart. By creating a common vision of the future and a shared set of values that overarch and subsume managers' more parochial business, functional or geographic objectives, top management can, in effect, create a corporate lightning rod that captures this otherwise diffuse energy and channel it towards powering a single company engine.

Carlzon's ability to provide such a direction and purpose to SAS illustrates the three characteristics that distinguish an energizing and effective strategic vision from a catchy but ineffective public relations slogan. First, his vision incorporated a strategic focus that provided a simple and clear business direction. Second, he modified the company's portfolio of assets, activities and businesses so as to create an organizational scope that was consistent with the business vision. Finally, he articulated and embedded throughout the organization a new set of behavioral norms that brought the corporate culture in line with the company's strategic direction.

The strategic focus was built around the theme of "the businessman's airline". Faced with the situation of a stagnant market, general overcapacity in the industry, and continuing loss of market share to competitors, Carlzon recognized that SAS could not survive without a clear identity and market niche. Rejecting proposals to cut fares to improve aircraft utilization and boost load factors, or to initiate a major cost reduction programme to cut losses by obtaining a better margin from a declining revenue base, he actually increased investment to provide an improved level of service and thereby to attract a larger share of the full-fare paying business travellers. The strategy was widely publicized, both externally and internally and all tasks and functions within the organization were examined for consistency with this corporate direction. If the business traveller benefitted from a particular service or function, it was maintained or enhanced, otherwise it was cut-back or dropped altogether. Managers were urged to look upon expenses as resources; to cut those that did not contribute to the service and comfort of business travellers, but not to hesitate in raising those that did.

This new strategic focus required a reexamination of the company's assets and ultimately of its portfolio of activities. For example, the aircraft fleet mix was modified to meet the business traveller's demands of increased flight frequency. The recently acquired, high capacity Airbus aircrafts were withdrawn from service and leased to SAS's charter subsidiary since they were not suitable for the frequent, non-stop flights which the new schedule demanded. For the same reason, some boeing 747's were replaced by McDonnell Douglas DC-10's, and the older DC-9's were refurbished instead of being replaced since these smaller aircrafts were of the right size for the new service levels. In short, the previous high fixed cost, high capacity fleet was changed into a lower fixed-cost, high frequency one.

Ultimately, however, changing the fleet-mix was not enough to support the new business direction. Carlzon believed that to attract the business traveller, SAS had to offer a total travel package that could meet the client's needs, from the time they ordered their tickets to the time they got back home after the trip. To meet this need, Carlzon established the SAS service chain concept that dramatically expanded the company's portfolio of businesses to include a hotel network, surface transportation, reservation system, credit card operations and a revamped catering business.

But establishing a strategic vision and adjusting the corporate portfolio is not enough to embed a new direction and purpose within the organization: it is also necessary to establish a new set of supportive cultural and behavioral norms. The new service focus of SAS required that any employee in the "front line" (i.e. in the SAS/customer interface) should have the decision making power necessary to do, within reasonable limits, whatever the person felt appropriate to please the customer. This was extremely difficult in an organization that had become accustomed to centralized control in which a large corporate staff and layers of middle management implemented directives issued by the top management.

Carlzon established the new cultural and behavioral norms by emphasizing what he described as the "moment of truth", when a customer encountered a service staff. Each moment of truth had to be used to its full potential so as to encourage repeat business. "Throw out the manual and use your head instead" was the message he communicated to each employee of SAS. The underlying assumptions made explicit in numerous personal letters, several little booklets ("Carlzon's little red booklets") and an intensive internal training programme were that an individual with information could not avoid assuming responsibility and that hidden resources were released when an individual was free to assume responsibility instead of being restricted by instructions.

Leveraging Corporate Performance

While aligning the company's resources, capabilities and commitments to achieve common long-term objectives is vital, top management must also achieve results in the short-term to remain viable among its competitors and credible with its stakeholders. Thus, the second key task of top management is to provide the controls, support and coordination necessary to leverage resources and capabilities to their highest level of performance.

While the jury is still out on whether Carlzon will ultimately succeed in making SAS one of the survivors in the inevitable shake down in the airline industry, his success in dramatically improving the company's short-term performance is well established. In evaluating his personal role in achieving this short-term performance improvement, three aspects of his contributions appear to have had crucial impact.

First, he established and emphasized a small set of key performance indicators and he focused the entire organization's attention on those measures. Instead of swamping both himself and other managers in different functions and levels with a host of data from the company's financial reporting system, he redirected everyone's attention to a few key result areas some of which were financial but others were in non-financial operating areas such as safety, on-time performance and customer satisfaction. To do so, he had to make some significant changes in the company's reporting and information systems, as well as in its incentives and rewards. In establishing these performance indicators, he rejected the traditional notion of control based primarily on responding to below-budget financial results. He implemented the new performance orientation through mechanisms that were both more personal and proactive. Further, in discussions with key management groups of the company he ensured that their particular responsibilities with regard to the identified key performance areas were clearly understood.

Second, for each of these key performance areas, he set stretch goals that were considerably beyond what could be accomplished simply by incremental improvements within existing ways of working. For instance, starting from one of the industry lowest levels of on-time performance, he set the goal to be the best in Europe in this dimension within two years. Having set such demanding standards, however, he replaced the old model of top-down interference by one driven by corporate level support. He delegated clear responsibilities to his managers for achieving these goals, backing them up with modest rewards, and supporting each of the management groups with resources, specialized expertise and other forms of support available from the top levels of the company.

Finally, the third key aspect of his role in leveraging corporate performance lay in managing his own interventions in the day-to-day activities of the company. He clearly established, in advance, the few key areas that he would oversee and intervene in personally - on time performance, for example, and the allocation of capital and key human resources. For all other aspects of performance, he established formal systems, and resisted the temptation to send headquarters storm troopers to take charge at the first sign of difficulty. At the same time, he travelled extensively, keeping in contact with all levels of the organization and using these personal contacts to create and maintain a bottom-up momentum for accomplishing his stretch objectives.

Ensuring Continuous Renewal

Despite their enormous value, either of these first two roles, if pursued to extreme, can result in a company's demise in the long-term. A fixation on an outmoded mission can be just as dangerous as a total preoccupation with short-term performance. Even together, they can lead a company to be doomed by its continuing success. This is especially likely where successful strategies get elevated to the status of unquestionable wisdom and effective organizational processes become institutionalized as unshakeable routines. As strategies and processes ossify, management loses its flexibility, and eventually the organization sees its role as protecting its past heritage.

The third key role of top management is to prevent this from occurring and there are several important ways in which it can ensure that the organization continues to renew itself rather than just reinventing its past. Once again, Carlzon's actions in SAS provide some clues on how corporate top management can execute this vital responsibility.

First, throughout his now decade-long stewardship of SAS, Carlzon has continuously reinterpreted and expanded the organization's ambitions within the scope of the broad vision he articulated at the beginning. Facing a situation of severe performance problems and intense financial pressures, his initial turnaround actions in 1981 and 1982 were oriented toward tangible but stretched short-term operating and financial goals. By 1984, as SAS was awarded the 'Airline of the Year' award by the Air Transport World magazine, and as its financial performance rebounded to one of the best in the industry, the organizational momentum he had built began to diminish.

At this point he raised the ante by launching what he called 'the second wave'. This time he focused the organization's attention on the rapid liberalization of the regulated airline industry, and on SAS's vulnerability in a competitive market despite its excellent operating performance because of the thin population base in its home region and its relatively high cost base. To overcome this vulnerability, he launched the SAS service chain concept that significantly expanded the business scope of the company, and also reset operating targets to become 'the most efficient airline in Europe by 1990'.

By 1988, Carlzon had launched what might be described as the 'third wave'. Having established a significant infrastructure to support the service chain concept, he once again broadened the organization's attention - this time to the rapid globalization of the airline industry. He personally travelled to each unit of the company explaining why, to survive, SAS had to go beyond Europe and establish global links. While the second wave expanded the company's business domain, the third focused on the expansion of its geographic scope through alliances with other major airlines in North and South America and the Far East.

This process of continuous evolution and reinterpretation of the organization's goals and tasks, while at the same time protecting the continuity and integrity of its broader vision and mission, is a key element of the personal contribution the top management must make to facilitate the process of continuous renewal. We have seen the same fluidity and evolution of corporate ambition in Japanese companies like Komatsu and NEC where the annual President's speeches provide the forum for keeping the organization stretched through the launching of new challenges and programmes to broaden the company's strategic capabilities and leverage those capabilities in areas of emerging opportunities.

Beyond this direct role in reinterpreting corporate goals to keep the organization stretched, top management must also create a context of "dynamic imbalance" by constantly questioning, challenging, stirring up and changing things in a way that forces adaptation and learning. This process of constantly challenging the internalized knowledge of the company may often be institutionalized through the creation of inquiry centers or through mechanisms such as the work-out process in GE. Alternatively, they can be legitimized by explicit top management support for deviant views and behaviors as done, for example, in Digital Equipment Corporation by creating a culture in which "push backs" and occasional defiance are both accepted and celebrated. Clearly, however, this is a delicate process that requires a great deal of top management time if it is not to degenerate into anarchy or corporate politics.

Finally, developing a strong external orientation is perhaps the greatest safeguard against inertia. It is a key task of the top management to constantly orient the company to its customers and benchmark it against its best competitors to counteract the internal focus that is often a large company's price of success. This is perhaps the area in which Carlzon made his strongest contribution to SAS. When he took over the company, SAS was a large bureaucracy, owned by not one but three different national governments and, like all bureaucracies, it was focused on its fixed assets, fascinated by technology and enmeshed in complex webs of internal factional politics. By replacing 13 of the 14 executives in the company's management team, Carlzon removed a key layer in the organization. "Moments of truth" focused the company on its customers while the goal of "being the best in Europe" institutionalized competitive benchmarking throughout the company.

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90/10 TM	Joyce BRYER and Tawfik JELASSI	**"The Impact of Language Theories on DSS Dialog"**, January 1990.
90/11 TM	Enver YUCESAN	**"An Overview of Frequency Domain Methodology for Simulation Sensitivity Analysis"**, January 1990.
90/12 EP	Michael BURDA	**"Structural Change, Unemployment Benefits and High Unemployment: A U.S.-European Comparison"**, January 1990.
90/13 TM	Soumitra DUTTA and Shashi SHEKHAR	**"Approximate Reasoning about Temporal Constraints in Real Time Planning and Search"**, January 1990.
90/14 TM	Albert ANGEHRN and Hans-Jakob LÜTHI	**"Visual Interactive Modelling and Intelligent DSS: Putting Theory Into Practice"**, January 1990.
90/15 TM	Arnoud DE MEYER, Dirk DESCHOOLMEESTER, Rudy MOENAERT and Jan BARBE	**"The Internal Technological Renewal of a Business Unit with a Mature Technology"**, January 1990.
90/16 FIN	Richard LEVICH and Ingo WALTER	**"Tax-Driven Regulatory Drag: European Financial Centers in the 1990's"**, January 1990.
90/17 FIN	Nathalie DIERKENS	**"Information Asymmetry and Equity Issues"**, Revised January 1990.
90/18 MKT	Wilfried VANHONACKER	**"Managerial Decision Rules and the Estimation of Dynamic Sales Response Models"**, Revised January 1990.
90/19 TM	Beth JONES and Tawfik JELASSI	**"The Effect of Computer Intervention and Task Structure on Bargaining Outcome"**, February 1990.
90/20 TM	Tawfik JELASSI, Gregory KERSTEN and Stanley ZIONTS	**"An Introduction to Group Decision and Negotiation Support"**, February 1990.
90/21 FIN	Roy SMITH and Ingo WALTER	**"Reconfiguration of the Global Securities Industry in the 1990's"**, February 1990.
90/22 FIN	Ingo WALTER	**"European Financial Integration and Its Implications for the United States"**, February 1990.
90/23 EP/SM	Damien NEVEN	**"EEC Integration towards 1992: Some Distributional Aspects"**, Revised December 1989
90/24 FIN/EP	Lars Tyge NIELSEN	**"Positive Prices in CAPM"**, January 1990.
90/25 FIN/EP	Lars Tyge NIELSEN	**"Existence of Equilibrium in CAPM"**, January 1990.
90/26 OB/BP	Charles KADUSHIN and Michael BRIMM	**"Why networking Fails: Double Binds and the Limitations of Shadow Networks"**, February 1990.
90/27 TM	Abbas FOROUGHI and Tawfik JELASSI	**"NSS Solutions to Major Negotiation Stumbling Blocks"**, February 1990.
90/28 TM	Arnoud DE MEYER	**"The Manufacturing Contribution to Innovation"**, February 1990.

90/29	FIN/AC	Nathalie DIERKENS	"A Discussion of Correct Measures of Information Asymmetry", January 1990.
90/30	FIN/EP	Lars Tyge NIELSEN	"The Expected Utility of Portfolios of Assets", March 1990.
90/31	MKT/EP	David GAUTSCHI and Roger BETANCOURT	"What Determines U.S. Retail Margins?", February 1990.
90/32	SM	Srinivasan BALAK-RISHNAN and Mitchell KOZA	"Information Asymmetry, Adverse Selection and Joint-Ventures: Theory and Evidence", Revised, January 1990.
90/33	OB	Caren SIEHL, David BOWEN and Christine PEARSON	"The Role of Rites of Integration in Service Delivery", March 1990.
90/34	FIN/EP	Jean DERMINE	"The Gains from European Banking Integration, a Call for a Pro-Active Competition Policy", April 1990.
90/35	EP	Jae Won PARK	"Changing Uncertainty and the Time-Varying Risk Premia in the Term Structure of Nominal Interest Rates", December 1988, Revised March 1990.
90/36	TM	Arnoud DE MEYER	"An Empirical Investigation of Manufacturing Strategies in European Industry", April 1990.
90/37	TM/OB/SM	William CATS-BARIL	"Executive Information Systems: Developing an Approach to Open the Possibles", April 1990.
90/38	MKT	Wilfried VANHONACKER	"Managerial Decision Behaviour and the Estimation of Dynamic Sales Response Models", (Revised February 1990).
90/39	TM	Louis LE BLANC and Tawfik JELASSI	"An Evaluation and Selection Methodology for Expert System Shells", May 1990.
90/40	OB	Manfred KETS DE VRIES	"Leaders on the Couch: The case of Roberto Calvi", April 1990.
90/41	FIN/EP	Gabriel HAWAWINI, Itzhak SWARY and Ik HWAN JANG	"Capital Market Reaction to the Announcement of Interstate Banking Legislation", March 1990.
90/42	MKT	Joel STECKEL and Wilfried VANHONACKER	"Cross-Validating Regression Models in Marketing Research", (Revised April 1990).
90/43	FIN	Robert KORAJCZYK and Claude VIALLET	"Equity Risk Premia and the Pricing of Foreign Exchange Risk", May 1990.
90/44	OB	Gilles AMADO, Claude FAUCHEUX and André LAURENT	"Organisational Change and Cultural Realities: Franco-American Contrasts", April 1990.
90/45	TM	Soumitra DUTTA and Piero BONISSONE	"Integrating Case Based and Rule Based Reasoning: The Possibilistic Connection", May 1990.
90/46	TM	Spyros MAKRIDAKIS and Michèle HIBON	"Exponential Smoothing: The Effect of Initial Values and Loss Functions on Post-Sample Forecasting Accuracy".
90/47	MKT	Lydia PRICE and Wilfried VANHONACKER	"Improper Sampling in Natural Experiments: Limitations on the Use of Meta-Analysis Results in Bayesian Updating", Revised May 1990.
90/48	EP	Jae WON PARK	"The Information in the Term Structure of Interest Rates: Out-of-Sample Forecasting Performance", June 1990.
90/49	TM	Soumitra DUTTA	"Approximate Reasoning by Analogy to Answer Null Queries", June 1990.
90/50	EP	Daniel COHEN and Charles WYPLOSZ	"Price and Trade Effects of Exchange Rates Fluctuations and the Design of Policy Coordination", April 1990.

90/51 EP	Michael BURDA and Charles WYPLOSZ	**"Gross Labour Market Flows in Europe: Some Stylized Facts"**, June 1990.
90/52 FIN	Lars Tyge NIELSEN	**"The Utility of Infinite Menus"**, June 1990.
90/53 EP	Michael Burda	**"The Consequences of German Economic and Monetary Union"**, June 1990.
90/54 EP	Damien NEVEN and Colin MEYER	**"European Financial Regulation: A Framework for Policy Analysis"**, (Revised May 1990).
90/55 EP	Michael BURDA and Stefan GERLACH	**"Intertemporal Prices and the US Trade Balance"**, (Revised July 1990).
90/56 EP	Damien NEVEN and Lars-Hendrik RÖLLER	**"The Structure and Determinants of East-West Trade: A Preliminary Analysis of the Manufacturing Sector"**, July 1990
90/57 FIN/EP/ TM	Lars Tyge NIELSEN	**Common Knowledge of a Multivariate Aggregate Statistic"**, July 1990
90/58 FIN/EP/TM	Lars Tyge NIELSEN	**"Common Knowledge of Price and Expected Cost in an Oligopolistic Market"**, August 1990
90/59 FIN	Jean DERMINE and Lars-Hendrik RÖLLER	**"Economies of Scale and Scope in the French Mutual Funds (SICAV) Industry"**, August 1990
90/60 TM	Peri IZ and Tawfik JELASSI	**"An Interactive Group Decision Aid for Multiobjective Problems: An Empirical Assessment"**, September 1990
90/61 TM	Pankaj CHANDRA and Mihkel TOMBAK	**"Models for the Evlauation of Manufacturing Flexibility"**, August 1990
90/62 EP	Damien NEVEN and Menno VAN DIJK	**"Public Policy Towards TV Broadcasting in the Netherlands"**, August 1990
90/63 SM	Sumantra GHOSHAL and Eleanor WESTNEY	**"Organising Competitor Analysis Systems"**, August 1990
90/64 SM	Sumantra GHOSHAL	**"Internal Differentiation and Corporate Performance: Case of the Multinational Corporation"**, August 1990
90/65 EP	Charles WYPLOSZ	**"A Note on the Real Exchange Rate Effect of German Unification"**, August 1990
90/66 TM/SE/FIN	Soumitra DUTTA and Piero BONISSONE	**"Computer Support for Strategic and Tactical Planning in Mergers and Acquisitions"**, September 1990
90/67 TM/SE/FIN	Soumitra DUTTA and Piero BONISSONE	**"Integrating Prior Cases and Expert Knowledge In a Mergers and Acquisitions Reasoning System"**, September 1990
90/68 TM/SE	Soumitra DUTTA	**"A Framework and Methodology for Enhancing the Business Impact of Artificial Intelligence Applications"**, September 1990
90/69 TM	Soumitra DUTTA	**"A Model for Temporal Reasoning in Medical Expert Systems"**, September 1990
90/70 TM	Albert ANGEHRN	**"'Triple C': A Visual Interactive MCDSS"**, September 1990
90/71 MKT	Philip PARKER and Hubert GATIGNON	**"Competitive Effects in Diffusion Models: An Empirical Analysis"**, September 1990
90/72 TM	Enver YÜCESAN	**"Analysis of Markov Chains Using Simulation Graph Models"**, October 1990
90/73 TM	Arnoud DE MEYER and Kasra FERDOWS	**"Removing the Barriers in Manufacturing"**, October 1990
90/74 SM	Sumantra GHOSHAL and Nitin NOHRIA	**"Requisite Complexity: Organising Headquarters-Subsidiary Relations in MNCs"**, October 1990

90/75 MKT	Roger BETANCOURT and David GAUTSCHI	"The Outputs of Retail Activities: Concepts, Measurement and Evidence", October 1990
90/76 MKT	Wilfried VANHONACKER	"Managerial Decision Behaviour and the Estimation of Dynamic Sales Response Models", Revised October 1990
90/77 MKT	Wilfried VANHONACKER	"Testing the Koyck Scheme of Sales Response to Advertising: An Aggregation-Independent Autocorrelation Test", October 1990
90/78 EP	Michael BURDA and Stefan GERLACH	"Exchange Rate Dynamics and Currency Unification: The Ostmark - DM Rate", October 1990
90/79 TM	Anil GABA	"Inferences with an Unknown Noise Level in a Bernoulli Process", October 1990
90/80 TM	Anil GABA and Robert WINKLER	"Using Survey Data in Inferences about Purchase Behaviour", October 1990
90/81 TM	Tawfik JELASSI	"Du Présent au Futur: Bilan et Orientations des Systèmes Interactifs d'Aide à la Décision," October 1990
90/82 EP	Charles WYPLOSZ	"Monetary Union and Fiscal Policy Discipline," November 1990
90/83 FIN/TM	Nathalie DIERKENS and Bernard SINCLAIR-DESGAGNE	"Information Asymmetry and Corporate Communication: Results of a Pilot Study", November 1990
90/84 MKT	Philip M. PARKER	"The Effect of Advertising on Price and Quality: The Optometric Industry Revisited," December 1990
90/85 MKT	Avijit GHOSH and Vikas TIBREWALA	"Optimal Timing and Location in Competitive Markets," November 1990
90/86 EP/TM	Olivier CADOT and Bernard SINCLAIR-DESGAGNE	"Prudence and Success in Politics," November 1990
90/87 FIN/EP	Lars Tyge NIELSEN	"Existence of Equilibrium in CAPM: Further Results", December 1990
90/88 OB/MKT	Susan C. SCHNEIDER and Reinhard ANGELMAR	"Cognition in Organisational Analysis: Who's Minding the Store?" Revised, December 1990
90/89 OB	Manfred F.R. KETS DE VRIES	"The CEO Who Couldn't Talk Straight and Other Tales from the Board Room," December 1990
90/90 MKT	Philip PARKER	"Price Elasticity Dynamics over the Adoption Lifecycle: An Empirical Study," December 1990

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91/01 TM/SM	Luk VAN WASSENHOVE, Leonard FORTUIN and Paul VAN BEEK	"Operational Research Can Do More for Managers Than They Think!," January 1991
91/02 TM/SM	Luk VAN WASSENHOVE, Leonard FORTUIN and Paul VAN BEEK	"Operational Research and Environment," January 1991
91/03 FIN	Pekka HIETALA and Timo LÖYTTYNIEMI	"An Implicit Dividend Increase in Rights Issues: Theory and Evidence," January 1991
91/04 FIN	Lars Tyge NIELSEN	"Two-Fund Separation, Factor Structure and Robustness," January 1991
91/05 OB	Susan SCHNEIDER	"Managing Boundaries in Organisations," January 1991
91/06 OB	Manfred KETS DE VRIES, Danny MILLER and Alain NOEL	"Understanding the Leader-Strategy Interface: Application of the Strategic Relationship Interview Method," January 1990 (89/11, revised April 1990)

91/07 EP	Olivier CADOT	**"Lending to Insolvent Countries: A Paradoxical Story,"** January 1991
91/08 EP	Charles WYPLOSZ	**"Post-Reform East and West: Capital Accumulation and the Labour Mobility Constraint,"** January 1991
91/09 TM	Spyros MAKRIDAKIS	**"What can we Learn from Failure?"**, February 1991
91/10 TM	Luc Van WASSENHOVE and C. N. POTTS	**"Integrating Scheduling with Batching and Lot-Sizing: A Review of Algorithms and Complexity"**, February 1991
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91/12 TM	Albert ANGEHRN	**"Interpretative Computer Intelligence: A Link between Users, Models and Methods in DSS"**, February 1991
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91/16 TM	Arnoud DE MEYER and Kasra FERDOWS et.al.	**"Factories of the Future: Executive Summary of the 1990 International Manufacturing Futures Survey"**, March 1991
91/17 TM	Dirk CATTRYSSE, Roelof KUIK, Marc SALOMON and Luk VAN WASSENHOVE	**"Heuristics for the Discrete Lotsizing and Scheduling Problem with Setup Times"**, March 1991
91/18 TM	C.N. POTTS and Luk VAN WASSENHOVE	**"Approximation Algorithms for Scheduling a Single Machine to Minimize Total Late Work"**, March 1991
91/19 MKT	Vikas TIBREWALA and Bruce BUCHANAN	**"An Aggregate Test of Purchase Regularity"**, March 1991
91/20 MKT	Darius SABAVALA and Vikas TIBREWALA	**"Monitoring Short-Run Changes in Purchasing Behaviour"**, March 1991
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91/22 EP	David GOOD, Lars-Hendrik RÖLLER and Robin SICKLES	**"EC Integration and the Structure of the Franco-American Airline Industries: Implications for Efficiency and Welfare"**, April 1991
91/23 TM	Spyros MAKRIDAKIS and Michèle HIBON	**"Exponential Smoothing: The Effect of Initial Values and Loss Functions on Post-Sample Forecasting Accuracy"**, April 1991 (Revision of 90/46)
91/24 TM	Louis LE BLANC and Tawfik JELASSI	**"An Empirical Assessment of Choice Models for Software Evaluation and Selection"**, May 1991
91/25 SM/TM	Luk N. VAN WASSENHOVE and Charles J. CORBETT	**"Trade-Offs? What Trade-Offs?"** April 1991
91/26 TM	Luk N. VAN WASSENHOVE and C.N. POTTS	**"Single Machine Scheduling to Minimize Total Late Work"**, April 1991
91/27 FIN	Nathalie DIERKENS	**"A Discussion of Correct Measures of Information Asymmetry: The Example of Myers and Majluf's Model or the Importance of the Asset Structure of the Firm"**, May 1991
91/28 MKT	Philip M. PARKER	**"A Note on: 'Advertising and the Price and Quality of Optometric Services'**, June 1991
91/29 TM	Tawfik JELASSI and Abbas FOROUGHI	**"An Empirical Study of an Interactive, Session-Oriented Computerised Negotiation Support System (NSS)"**, June 1991

91/30 MKT	Wilfried R. VANHONACKER and Lydia J. PRICE	**"Using Meta-Analysis Results in Bayesian Updating: The Empty Cell Problem"**, June 1991
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91/41 TM	Luk VAN WASSENHOVE, M.Y. KOVALYOU and C.N. POTTS	**"A Fully Polynomial Approximation Scheme for Scheduling a Single Machine to Minimize Total Weighted Late Work"**, August 1991
91/42 TM	Rob R. WEITZ and Tawfik JELASSI	**"Solving A Multi-Criteria Allocation Problem: A Decision Support System Approach"**, August 1991