An Integrated Framework for Managing Change in the New Competitive Landscape

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It is not the strongest species that will survive, nor the most intelligent, but the one most responsive to change.

Charles Darwin

The pace of change experienced by modern businesses is phenomenal. Businesses today have to abandon many of the principles that have guided generations of managers, and develop a new set of objectives and rules that will enable them to successfully manage change and guide them to transform into 21st century corporations.

Extensive work has been done recently to develop models and frameworks for addressing a variety of the issues associated with organisational change. This paper integrates and advances some of the models and concepts in an effort to develop an all-encompassing framework to guide managerial action.

Using Scott-Morton’s framework as a point of departure and integrating the key management imperatives and change-enablers of the new competitive landscape, the paper develops an integrative model of organisational change encompassing all parts of the organisation (i.e. strategy, structure, processes and human capital), that seeks to offer managers guidance as to the fundamental factors that need to be considered when planning and implementing change initiatives. © 2002 Published by Elsevier Science Ltd.

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Introduction

Change is an inherent element in social life and activities and this is perhaps nowhere more obvious than in the business world. Despite recent attention from business practitioners and academics in the dynamics and processes of organisational change (OC), it is important to keep in mind that OC has ‘always been here’. Whether it was the agricultural, industrial or information revolution, a new type of leadership has always been required to solve new problems and take advantage of new opportunities (Hoenig, 2000).

What has not always been around, however, is the phenomenal pace of change experienced by modern businesses during the 90s, in particular the second half of the decade. This situation is, of course, closely connected to the technology explosion phenomenon – particularly with respect to information and telecommunication technologies, also to the resulting globalisation of economic activities through free trade and movement of products and capital and, to a lesser but accelerating extent, of human resources (Hitt et al., 1998).

Propelled by the driving forces of technology and
globalisation, the economic landscape continuously transforms in a way that has come to undermine the relevance of received wisdom on how a firm should be managed and what underlies its success. Firms nowadays are called upon to abandon the emphasis on lowering costs, rigid organisational structures and ‘command and control’ management styles. Instead, they are urged to direct their attention to value creation for the customer, to innovation and flexibility.

Organisational change, within this context, is not just an option; it constitutes a fundamental necessity for success within the new competitive landscape (Hamel and Prahalad, 1996; Illinitich et al., 1996). Firms world-wide appear to recognise the need for transformation and make efforts to implement the changes deemed necessary to improve their competitiveness. It appears, however, that these attempts often result in failure (Streb, 1996). In response, a number of requirements for successful OC have been prescribed in the extant literature. It has been suggested, for example, that producing change depends on the level of top management commitment, the type of intervention used, people’s readiness to accept the changes required, levels of resistance, and the organisation’s culture (cf. Goodman, 1982; Quinn and Cameron, 1989). Beer and Nohria (2000) introduce two ‘archetypes’ of change in organisations: theory ‘E’ based on economic value, and theory ‘O’ based on organisational capability. Theory E puts shareholder value at the centre of measurement of corporate success. Theory O advocates development of corporate culture and human capability. In this paper we tend to incline towards the ‘O’ approach, while recognising, as Beer and Nohria stress, that both approaches need to meet and integrate.

A central prescription that is often overlooked in practice, centres on the need for managers to clearly recognise that OC represents (or should represent) a massive all-encompassing undertaking that involves the organisation as a whole (Dutta and Manzoni, 1999). Given this, a conceptual framework is needed for structured analysis and implementation. A number of such frameworks have been proposed in the literature, including the 7S model (Pascale and Athos, 1981), and the Scott-Morton framework (Scott-Morton, 1991).

The 7S model is built on the premise that successful OC rests on the consistency and balance or transformation between seven specific dimensions, namely, strategy (i.e. a coherent set of actions aimed at achieving sustainable competitive advantage), skills (i.e. organisation distinctive capabilities), shared values (i.e. culture), structure (i.e. organisational chart and related concepts), systems (i.e. the processes and procedures by which things get done), staff (i.e. human capital skills and abilities) and style (i.e. managerial styles). Scott-Morton (1991) views an organisation basically as shaped by five forces (i.e. strategy, structure, processes, people and technology) while at the same time operating within the context of a specific external environment. These forces collectively define a firm’s fundamental modus operandi and are seen to be in dynamic equilibrium, leading to the accomplishment of its strategic objectives.

Using Scott-Morton’s framework as a point of departure, but looking at technology as a key enabler for implementing change in strategy formulation, structure, processes and human resource management, this paper develops an integrative model of OC that seeks to offer managers guidance as to the fundamental factors that need to be considered when planning and implementing change initiatives. It is argued that the forces of globalisation and technology explosion have resulted in the enthroning of the customer as the ‘king’ of the competitive game (Dupuy, 1999), and that for firms to survive and grow they need to become innovative and flexible (cf. Dougherty and Hardy, 1996; Grant, 1998; Teece et al., 1997; Volberda, 1997, 1998). Therefore, our model assumes that actions for managing change should take into account the primary management imperatives of flexibility and innovation. These imperatives, when applied to the Scott-Morton forces/dimensions, ‘generate’ a set of managerial objectives, which can be achieved through a set of actions/levers. Critical for the successful implementation of these levers, and the absorption and sustainability of change are the organisation’s dynamic capabilities as well as the enabling role of Information and Communication Technologies (ICT).

The remainder of the paper is organised as follows: the subsequent section briefly discusses the new competitive landscape introducing the major building blocks of the framework; the third section presents the model and the remaining sections discuss the fundamental objectives that OC initiatives should pursue in terms of strategy, structure, processes and human capital, together with an indication of some specific levers of change within each of these domains. Without any claim to be exhaustive, we attempt to give a wide overview of change trends and to describe them using what we hope will be seen as expressive labels for ‘branding’ change efforts in organisations. The paper concludes with a summary of the key propositions.

The New Competitive Landscape

It has become a truism that globalisation and the technology explosion are the major phenomena shaping today’s economic environment world-wide. This is evident both at the macro and the micro (i.e. organisational) levels of analysis. With respect to the former, and according to the OECD, more than half of the total GDP in advanced economies is attributed to the so-called knowledge-based industries (i.e. telecommunications, computers and software, pharma-
The ‘new competitive landscape’, (a notion academically coined by Bettis and Hitt, 1995), is in fact self-evident and there is really no need here to discuss the mechanisms by which it has been effected. What is important, however, is to identify the consequences of these global changes for management. In this connection, it has been argued that fundamentally the most immediate and abrupt consequence of globalisation is the customer’s victory (Dupuy, 1999).

Put differently, economic power has been handed over by the producer to the consumer, hence enjoying ‘more quality, more for the money, more choice, more service’ (Hammer and Champy, 1993). These scholars put the notion of customer victory in opposition to customers suffering from poor performance in monopoly-delivered goods and services. In this sense it is rational to talk about customer victory. Borders that previously held the market back from fulfilling its vocation of effective distribution of wealth are now being torn down. Particular Internet services take customer victory to extremes when, for example, customers are allowed to specify their desired price in on-line auctioning (Venkatraman, 2000).

If the customer is truly on the path of becoming the ‘king’ of the competitive game, then managers need to identify and access new ways of successfully delivering customer value since the latter is arguably the fundamental prerequisite for success. As mentioned earlier, flexibility and innovation have come to constitute the two primary credos in academic and practice-oriented literature used to denote the direction of change required for achieving sustained competitive advantage. Critical for the successful implementation of these imperatives, however, is that firms are endowed with appropriate capabilities and also are rapid, innovative and knowledgeable in exploiting the ever-evolving potential offered by ICTs. While the imperatives of innovation and flexibility are directly or indirectly related to a firm’s ability to adapt to and satisfy ever-changing customer needs, organisational capabilities represent the firm’s very capacity to implement, make sense of, and, perhaps most important, sustain the changes required for being flexible and innovative. Interestingly, developing and nurturing organisational capabilities is itself a process requiring organisational changes (Leonard-Barton, 1992).

**Imperative 1: Flexibility**

In an era of hyper-competition and discontinuous change, managers’ capacity to pre-plan or make decisions in advance is seriously limited. This does not mean that proactive action is excluded. As comprehensively developed by Brown and Eisenhardt (1998) companies need to balance between reacting, anticipating and leading change. Hence, what the end of long-term planning implies is a quest for strategic and organisational flexibility as a natural response; a strategic option – indeed a fundamental one – in situations where anticipating future market events is (nearly) impossible. Business intelligence emerges in this context as the substitute for long-range planning.

Flexibility is of course not a new concept. It has been much discussed in the literature. It denotes the firm’s responsiveness to competitive pressures and its adaptability to change. According to Aaker and Mascarenhas (1984), strategic flexibility may be defined as the ability of the organisation to adapt to substantial, uncertain and fast-occurring changes in the environment that have a meaningful impact on its performance. Eardley et al. (1997) and Evans (1991) argue that it also signifies the firm’s ability to deviate from a predetermined course of action or its original intentions. Moreover, Volberda (1997) has noted an interesting inherent paradox in the concept of flexibility: that it must be combined with stability. Put differently, while organisations need to be able to adapt quickly, at the same time they can only obtain efficiency from stable processes.

Received wisdom generally distinguishes between three types of flexibility: (a) operational, (b) structural and (c) strategic flexibility (Volberda, 1997). Operational flexibility, the most common type, has as its distinguishing characteristic that it is based on existing structures or goals of the organisation, which, as the term implies, mainly involves operational activities. Moreover, it is reactive in nature as it relates to the volume of activities rather than the kinds of activities performed. Examples of operational flexibility are the variation of production volume, the building up of inventories, the maintenance of excess capacity, the contracting out of peripheral activities and the use of temporal labour. Structural flexibility, on the other hand, refers to the firm’s capacity to adapt within a given structure as well as the rapidity by which the adaptation can be accomplished. In contrast to operational flexibility, which is ‘confined’ to operational activities, structural flexibility involves having to renew or transform current processes. Job enlargement, the creation of small work cells within a production line, the use of project teams and forms of inter-organisational co-operation (as in the case of co-design) are common examples of how a firm can achieve structural flexibility. Finally, strategic flexibility relates to the very goals of the organisation. It is the most radical form of flexibility as it is much
more qualitative in nature involving changes in the character, as opposed to the volume or the structural organisation of activities. It may, for example, involve dismantling current strategies, the application of new technologies or even the fundamental renewal of products/services offered (Volberda, 1997). In the following sections we synthesise and develop an array of means for developing operational, and most importantly structural and strategic flexibility in an organisation through appropriate levels of change in strategy, structure, processes and in human capital management practices.

Imperative 2: Innovation

Similar to flexibility, the ability to generate a variety of successful new products or services (embedding technological innovation), and to continuously innovate in all aspects of business – strategy, structure, processes and organisation – is vital for any corporation. Clearly innovation is critical, but what does the management of innovation really entail? If an innovation is ‘an idea, practice, or object that is perceived as new by an individual or other unit of adoption’ (Schumpeter, 1961) and management is defined as the ‘judicious use of means to accomplish an end’ (Webster, 1998), then innovation management in a company would concern the way in which a broad array of means – accessible to the company’s managers and employees – are used in order to propose ideas, practices or objects perceived as new by customers willing to pay for them.

In many respects innovation is naturally associated with technology. For example, innovation in high-tech markets is often defined as an object perceived as new that will have one or several new technologies as its main constituent. Quite wrongly, the technology is often reduced to the artefact that represents it, for example, a laptop or a mobile phone contains microprocessors and crystal display technology. Yet technology is more than simply an artefact. It is (a) the system of scientific and technical knowledge at the origin of an invention, as in, for example, the case of crystal display technology, (b) the competencies used to materialise an innovation, for example Nokia’s ability to learn from alliances with companies like Geoworks and Intel, (c) the artefact representing an innovation, e.g. the cellular telephone, and (d) the know-how used to ensure the sustainability and development of the innovation, e.g. the R&D capacity and strategic management of innovation in a company like Nokia. Thus, technology can be seen as a generator, a carrier and a representation of innovation. Today, technology is present throughout a company’s business processes. Its use in products or services and in their production processes is obviously important, but technology is also crucial to design, organisation, information-handling, marketing, distribution and sales. The omnipresence of technology together with its systemic nature is a major driver behind the exploding potential to innovate in business and throughout the value chain.

As noted by many, innovation and flexibility are key prerequisites for survival in the new competitive landscape. While undoubtedly true, imperatives are far easier to express in words than to accomplish in practice. We shall argue below that for a firm to succeed in these imperatives and achieve the changes required, it has to engage in enabling efforts to develop and nurture its internal competencies and to take advantage of it.

Enabler 1: Internal Capabilities

During the 1990s, practitioners and scholars alike redirected their attention to firms’ unique and idiosyncratic capabilities as the primary determinants of competitive success. In what has come to be termed the resource-based view (RBV) of the firm, innovative performance is considered to be the outcome of reciprocal influences between the firm’s internal capabilities and the external contingencies related to environmental uncertainty and turbulence (Dosi et al., 1991; Nelson and Winter, 1982; Teece, 1982). Hence, as Teece et al. (1997) stress, a company’s competitive advantage is attributed to its ability to continually innovate before its competitors, while at the same time ensuring that such capabilities, which reside in the firm’s tacit collective knowledge and dynamic processes, are ambiguous and ‘path dependent’ (i.e. they are based on the firm’s specific history: its identity, past accomplishments and strong points as evolved over time), and therefore cannot be easily imitated by rivals.

Within this same line of reasoning, the ability of a firm to be agile and versatile (i.e. flexible), can be attributed to internal capabilities. On this account, Volberda (1997) introduces the notion of ‘meta-flexibility’ as an internal capability. Meta-flexibility should be distinguished from operational, structural, and strategic flexibility (discussed beforehand) since it involves the learning and monitoring systems that support the latter. In particular, meta-flexibility involves the processing of information that is needed in order to continually adjust the composition of management’s flexibility.

It may be useful at this point to make a distinction that is critical for our purposes: that between a firm’s resources and its capabilities. The distinction is similar to that between ‘having’ (i.e., what the firm has or owns) and ‘doing’ (i.e., what the firm can do). For
example, advanced manufacturing equipment represents a resource for any given firm. It is something that the firm owns. In contrast, however, the ability of the firm to exploit the capacity of the equipment to its own advantage (e.g. to produce technologically advanced products) usually involves an entire array of factors that cannot be readily obtained, such as experienced and motivated operators and a culture that rewards learning and performance, to name a few. In this sense, the productive capability of the firm to exploit advanced manufacturing technology is conceptually and practically different from the simple fact that it owns a piece of equipment. Put differently, it takes more than simply owning the technology to become flexible and innovative.

This discussion leads us to conclude that in order for companies to be able to respond to the imperatives of innovation and flexibility, and to successfully implement the levers that will be presented in subsequent sections, it needs to develop and nurture those internal competencies that are crucial for the task. Interestingly, the development of these competencies is itself the result of appropriate changes (e.g. in organisational structure or culture). Change, even radical change, is arguably not enough in an era of hyper-competition. What is essential is the capability for continuous change. This, in addition to the array of other organisational capabilities in an organisation, is first impacting on the ability to manage change effectively through the operationalisation of levers to achieve goals. Second, after implementation and evaluation of specific changes, organisational capabilities, including that for continuous change, are impacted upon through ‘sense-making’ of the results, a process during which knowledge accumulation and learning take place.

Enabler 2: Information and Communication Technologies (ICT)

The role of ICT in the success of change efforts may be decisive. As is often argued, ICT fundamentally challenge the traditional ways by which firms operate, as they enable – indeed drive in many cases – dramatic changes in the structure and operation of organisations. Dutta and Manzoni (1999) for example, argue that IT adoption corresponds to an incremental process of organisational capability development and strategic impact. The ‘e-business tidal wave’ (a term coined by Trevor Stewart of Deloitte & Touche, 1998) has provided firms with unprecedented opportunities for new strategy directions. Beyond providing a novel means for achieving competitive advantage, it has created the capability to extend and redefine the boundaries of markets, to establish direct channels, to create new value, to short-circuit the value chain, even alter the fundamental rules and basis of competition (Deloitte & Touche, 1998). Thus, it has directly influenced management perceptions of market opportunities concerning new markets and new types of activities (Prastacos, 1998) that in turn have translated into shifts in strategy directions.

It is also generally accepted that IT, because of its dramatically increasing power and capabilities, is an enabling mechanism for changes in organisational design. On this account, IT is often associated with flatter, more flexible organisational structures (Wigand et al., 1997; Applegate et al., 1999). IT can also exert a dramatic impact on specific business processes (e.g. information technologies embedded in logistics, production, etc.), and, more generally, streamline operations as well as radically enhancing coordination and control abilities throughout the firm (Grant, 1998). Finally, IT, apart from enabling changes in strategy, organisational structure and processes, both supports and presupposes a culture that promotes continuous learning and employee empowerment, i.e. motivation, creativity and networking, among others. On this account, it is essential that employees are ‘multi-skilled’ and ‘multi-functional’ to take full advantage of the opportunities stemming from IT. They need to be equipped with appropriate analytical abilities and knowledge and be capable of efficiently organising activities within a fluid and flexible environment. Moreover, they need to assume initiative and exercise leadership in exploring innovative uses of information technologies. Finally, IT critically supports the need for extensive teamwork and horizontal communication (Prastacos, 1998).

Introducing the Model

As noted in the introduction, there exists a vast body of literature examining OC using a multiplicity of perspectives. At the same time, the business press continuously heralds the emergence of new organisational forms in response to ever-increasing competitive pressures. Organisational change is admittedly a complex and multi-dimensional phenomenon and, in this sense, different points of view can offer varied and valuable insights into its effective implementation. It is worth noting, however, that though contemporary businesses face fundamentally different economic conditions and challenges in comparison with those experienced in the 80s or even the early 90s, the extent to which the required changes have so far diffused among firms and the performance consequences thereof have been recently questioned by some scholars (cf. Hoskisson et al., 1993; Gummer, 1991; Whittington et al., 1999).

We believe that these doubts are generally valid as recent empirical evidence appears to suggest that although change is becoming widespread, its direction and tendencies are neither simple nor one-way (Whittington et al., 1999). It could be argued that, among other things, this may be due to the somewhat limited emphasis in extant literature on giving con-
crete, definitive advice to practitioners dealing with change initiatives; a failure that may be attributed to ‘disciplinary isolation’ among the various theoretical perspectives from which OC is examined. This article aims to address this gap. More specifically it attempts to complement the understanding of intentional change by developing an integrative framework that synthesises existing notions, concepts and theoretical perspectives in a manner we hope is useful for practising managers.

The framework, depicted in Figure 1, draws upon the literature on globalisation, innovation, flexibility, information technology and the resource-based view of the firm in an attempt to convey a complete and synthetic picture of the imperatives and enabling factors underlying successful OC initiatives. As shown in Figure 1, it all begins with the external drivers of change. Globalisation and technology explosion create pressures that firms cannot afford to ignore since they fundamentally pertain to the challenges posed by the assumed customer victory. Simply put, this means that management has to initiate changes that involve the entire organisation. Not only in strategy or structure but in people-management and processes as well, since change in one domain unequivocally affects the others. Perhaps more important, the success of attempted change in one area (e.g. structure), critically depends on fitting changes in all the other domains, given their close interconnection in the enterprise system.

These changes, however, need to conform to those managerial imperatives that best address the challenges posed by customer victory, namely, innovation and flexibility. In the case of strategy, for instance, changes need to be made that drive the firm from a situation of duplicated mediocrity towards a more challenging objective: attaining virtual world-class. It is emphasised, however, that this, as well as the other subsequently discussed heavily demanding change objectives, cannot be successfully implemented unless the firm is endowed with two critical enabling factors: appropriate organisational capabilities and information technologies. There appears to exist general agreement among management scholars that firm success is ultimately dependent upon idiosyncratic capabilities that enable the efficient and effective execution of critical tasks. Parallel to internal capabilities, information technology can be a critical enabler in the success of change efforts, affecting the field of possibilities in change objectives, providing ‘tools’ as levers and supporting change implementation and evaluation of results.

In our framework, change involves the implementation and evaluation of what will be described as the levers of change within each organisational domain. As shown in Figure 1, however, the relation between organisational capabilities on the one hand, and implementation and evaluation of change levers on the other, is one of mutual interaction and impact rather than a one-way relationship. While it is true

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**Figure 1  An Integrated Framework for Managing Change in the New Competitive Landscape**
that the successful implementation/evaluation of change initiatives presupposes that the firm is endowed with appropriate capabilities, it is equally true that the experiences gained by implementing change are fed back into and nurture the existing stock of available firm competencies. This follows from the simple fact that organisational capabilities are accumulated through continuous learning and complex routines that are deeply embedded in the social fabric of the organisation. Hence, the two-way interaction.

Accordingly developed and nurtured, internal capabilities ultimately represent the firm’s very essence. They come to constitute its identity by defining the internal balance of organisational domains, the character and quality of its operations and, ultimately the specific ways by which the firm receives and interprets the stimuli posed by the drivers of change. Schematically, this is denoted by the two-headed arrows connecting capabilities with the organisation (i.e. organisational domains).

Taken overall, our framework implies that OC is an ‘auto-genetic’ process. It represents a ‘closed’ system in the sense that it relies on the firm’s own mechanisms by which change is implemented given its in-built capacity to continuously generate and develop competencies to achieve the task. At the same time, it is an ‘informationally open’ system in the sense that the firm is continuously engaged in receiving and interpreting the external environment signals that in turn ignite the otherwise ‘closed’ process of change within its boundaries.

In the subsequent sections, we provide a detailed account of the objectives and the levers for change in all organisational domains.

**Objective 1: Change the Strategy, ‘from Duplicated Mediocrity, to Virtual World Class’**

Take a product such as the mobile phone. Just when existing carrier technology has been criticised for poor enabling of new WAP services, the GPRS technology (General Packet Radio Services) emerges. This technology, which adds data routers on the core mobile networks, will offer a 10-fold increase in data throughput rates, from 9.6 to 115 kbit/s, thus rendering mobile Internet truly possible. Such fast-moving markets seriously challenge one of the most beloved concepts of traditional strategic management: the product life-cycle. Many products no longer reach the maturity stage, they are killed in full growth because the technology they are based upon is replaced by something new. Hence, there is no room for market followers duplicating the pioneers. There is only room for world class innovators, each of them innovating niche products and keeping up with technology through virtual links to different expert players; developers, laboratories, suppliers and competitors.

To be world class in this context, innovation should be central to strategy and the organisation flexible enough to nurture the ability to innovate by tapping into a web of capabilities needed to face each market challenge, sourced from business partners many of which may be integrated ‘virtually’ through information and communication technologies. To do so, we suggest managers think over the following strategic questions: First, what is the essence of strategy in your organisation? Then, how do you tackle those hyper-changing markets? Lastly, how do you install partnering with other organisations? Below we suggest three key levers to keep in mind when managing change in an organisation’s strategy.

**From Strategy as Planning, to Strategy as Incubation**

If strategic planning is the managerial equivalent of jogging (Minzberg, 1994), i.e. ‘not an efficient means to get anywhere, but if practised regularly will make you feel better’, then today’s business leader needs to seriously analyse the role of strategy in his or her organisation. Is it just a planning tool with the objective of allocating resources and setting goals to benchmark against? Or is it also used as a lever for extracting the best-in-context performance of employees and as a means of channelling their energy towards the accomplishment of goals and the creation of new competitive advantage?

Briefly, our argument is that strategy should be used as an incubator for change. This means that strategy should continuously and dynamically absorb, reformulate in corporate language terms, and disseminate throughout the organisation, the temporary ‘right’ values enabling employees to take the corresponding temporary ‘right’ decisions and commit the corresponding temporary ‘right’ acts. In this sense, strategy formulation is a continuous process, where business plans are revised at appropriate and flexible intervals. British Petroleum’s strategy of ‘keeping ideas flowing and stimulating thinking’ is an example of strategy as incubation, because it means applying a series of frameworks that help employees at all levels to constantly re-examine what the company is doing (Prokesch, 1997).

Strategy as incubation relies on strong and well disseminated guiding visions; clear pictures of an operational future, organisational or project destinations that serve as reference and focal points (Bowen et al., 1994). Guiding visions make strategy talk and make sure that people have guidelines for how to act in critical situations. Through such inspirational leadership (Business Week, 21/08/00), strategy will help to
leverage self-initiated change and self-initiated value-adding activity critical for creativity and successful innovation (Robinson and Stern, 1998). Further, strategy as incubation allocates resources for identifying and exploiting the true drivers of value, and for tracking down generators of waste and unnecessary cost. Finally, it fosters empowerment by giving employees the moral and physical support, together with the managerial reactivity they need in order to internalise a culture of entrepreneurship in their day-to-day activities and act correspondingly.

In order to monitor the successful accomplishment of strategic goals, there is a need for highly visible and transparent performance monitoring and reward systems well-aligned with corporate objectives. The balanced scorecard (Kaplan and Norton, 1996) provides many of the fundamentals of such a system, whilst the design of the system evidently needs to be tailored to each specific business context.

From Market Segmentation, to Customer Individualisation

The all-embracing concept for attaining the objective of customer individualisation is a customer focused orientation in the entire business. This can be done, first of all, by letting as many employees as possible get a close look at customers by bringing the customer into the organisation! The time is over when salespeople were the only interface to the magic world of customers. Today’s leaders in terms of innovation and flexibility share their operational reality with their customers. R&D teams at Valeo, Bosch or Autoliv, to take an example from the automotive industry, maintain permanently open communication channels with their customers, meaning that engineers are connected in real-time, working on shared CAD systems and groupware such as project-specific VPNs (Virtual Private Networks). Salespeople certainly act as facilitators in commercial negotiations on price and lead time, while project managers act as coaches who guarantee the overall fit of the project within the golden triangle of quality, cost and lead time. But value-adding activity in development takes place at an expert level in webs of technical workers from customer and supplier companies enabling immediate feed-forward of expectations and feedback of solutions in an ever-evolving loop of continuous improvement and value propositions until a final product or service is developed. The ability to work in such confidence, trust and openness with customers gives a unique opportunity to understand them and develop your business for and with them. The importance of cultivating these relationships for sustained competitive advantage cannot be over stressed.

A customer-focused orientation could enable a company to move from market segmentation to customer individualisation. In marketing terms, the concept of tribe is replacing that of segment, and mass customisation can today become reality through the individualisation of the global market that the Internet provides. It was not without reason that Ducati’s CEO recently exclaimed on CNN that when he is dealing with a Japanese customer, it is no longer a question concerning the Japanese market managed through the company’s Japanese sales office, but a direct conversation, through e-mail, with Mr XX-san and his personal needs and wants.

It goes without saying that dealing with customers on an individual basis can be exhausting – and expensive – in terms of the mobilisation of resources it requires. Hence, the importance of managing a balanced portfolio of customers also in terms of customer relations. The knowledge and value-creating relationships described are today essential in order to sustain a lead in innovation and flexibility. However, as many of those activities are long-term, stable sources of revenue must be ensured from less resource-demanding customer relationships.

From Vertical Integration, to Inter-Organisational Connectivity

‘Today innovation calls for the complex knowledge that only a broad network of specialists can offer’ (Quinn, 2000). With the dominance in the last decade of the core competence concept (Prahalad and Hamel, 1990), Henry Ford’s idea of the monolithic organisation ‘from mine to after-sales’ seems to have been definitively consigned to the junkyard of management concepts. The message is clear: whether inter- or intra-company, each homogenous entity in terms of the product/service-customer should go back to basics, stick to its knitting or compete on its capability base relying on mechanisms of connectivity in order to remain in the frontline of innovation and flexibility. Today, any organisation, large or small, manufacturer or service provider, must know how to manage alliances and collaborations – both vertical and horizontal – and how to cultivate and leverage these connections. One important lever is knowledge-sharing as a strategic intent when entering a collaborative relationship. For example, when Nokia decided in the late 1980s to become a global telecom company, it entered into strategic alliances with the American firms Geoworks and Intel, joint ventures that have proven to be invaluable to Nokia’s growth and introduction of new product innovations.

Again, IT can act as an enabling lever, especially Intranets and VPN technology. In a knowledge-intensive activity such as new product development, where engineering design is conducted in close collaboration with networks of experts and systems suppliers, a VPN, for example, can enable real-time actualisation of a technical modification undertaken by
one supplier so that the impact from the modification on interfacing components and systems can be instantly evaluated (Söderquist and Nellore, 2000).

Outsourcing continues to be a hot topic, as the initial quote from James Brian Quinn shows. After the outsourcing wave of component design and manufacturing in industry (an initial step towards outsourcing of innovation), outsourcing of a multitude of services including software management (via application service providers (ASPs) – companies that rent software functionality over the Internet) human resource management (recruitment relying on head-hunters and staffing on temporary work agencies), and accounting and control has become strategic for many companies.

However, outsourcing is not a panacea. Business Week (21/08/00) exclaims: ‘Forget the vision of the entirely “virtual” corporation in which everything is outsourced’. Certainly, freelance knowledge workers are important, and expertise services provided by suppliers are essential. But companies will need to have both a core of careerists to provide continuity, and a core of key business processes to provide competitive uniqueness. The importance is to find the right balance between core capabilities and outsourcing. Here, portfolio models can play a role as tools for choosing the ‘right’ activities, projects, or products to keep internally, or outsource respectively (Bensaou, 1999; Quinn and Hilmer, 1994).

Objective 2: Change the Structure, ‘from Formal Rigour, to ad Hoc Support’

Organisational structure provides the context for strategic choices to be formulated and also constitutes the vehicle by which these choices are effectively implemented (Grant, 1998). All organisations must be structured in a way that most effectively handles the contingencies posed by their respective environments. But when these contingencies change, and one can stress that today change occurs frequently and rapidly, structure can be formal only in those instances when customer value is created. So instead of being formal and rigid, structure needs to become a flexible skeleton providing ad hoc support for people finding themselves in the process of accomplishing strategic goals. This exerts a tremendous demand on structure’s ability to adapt and transform itself, to recreate itself as a sort of hypertext lego system for enhanced innovation and flexibility. The hypertext organisation is characterised by its flexibility to switch between different settings appropriate for different stages in the processes of creation and exploitation of knowledge (Nonaka, 1994).

To enable this change in structure, traditional hierarchies of power need to be transformed, structure must enable people to reach the frontline of value-creating activity, and the right balance between over- and under-staffing must be found. Below we analyse these three key levers for achieving structural change.

From Vertical Hierarchies of Power, to Virtual Webs of Collaboration

We have already talked about networked collaboration, but here we are looking inside the organisation and not, as before, its relation with the environment. In an organisational structure optimised for innovation and flexibility, power residing within numerous hierarchical levels should be transferred to organic webs of collaboration empowered by advanced information and communication technology, and supported by appropriate and structuring work methodologies. Important levers to help achieve this are the decentralisation of power structures and the establishment of structural networks, enabling people to access information and collaborators in order to take action. In the new flexi-organisation, authority, power and responsibility should not be determined by formal position, but by the requirements posed by the task in question.

Engineering teams may be the most illustrative example of how virtual webs of collaboration might work. Academic research into R&D and new product development (NPD) management has pioneered the current conception of project management (Clark and Fujimoto, 1991; Karlsson and Nellore, 1998). NPD project teams are formed around a baseline of value-creation. At the French automotive supply giant Valeo, new project teams are staffed after an in-depth analysis of the specific needs for managerial and scientific knowledge on the one hand, and of the individuals’ skills – thoroughly described and stored in a database – on the other. As projects evolve, structuring stage-gate models² allow for continuous monitoring of skill requirements and a corresponding adaptation of the team profile. In this way, teams are always right-on-target in terms of capabilities. Moreover, Intranet technology virtually links together past and current team members and specific pools of expertise in different technology areas. With decision-making taking place within teams at regular stage-gate meetings where functional managers come to the teams for direct briefing, flexibility and innovation are enhanced.

From Hiding in the Hierarchy, to (sun)bathing in the Frontline

With customers constantly present in operations and decision-making, there are no more hideaways in closed and opaque hierarchies. Also, the collabor-
ation in dedicated teams described above leaves no room for isolation or avoidance of responsibility to act. Of course there needs to be ‘safe’ places for creativity, for testing of new ideas and concepts, and for ‘bootlegging’ (unofficial but presumably future value-creating activity). What needs to be rooted out in organisations is irresponsibility, laissez-faire attitudes, and opportunistic manoeuvring of opinion and affinity disastrous for value creation. Employees ‘(sun)bathing in the frontline’ will not forget who makes their living – the customers do. They will not misunderstand what the customers want – immediate correction will take place. Instead, frontline employees will be able to channel their energy into what is beneficial for customers and profit-generating for the company. Moreover, IT in the form of databases and CRM systems enable on-line access to BackOffice information for the frontline employees.

Now, ‘(sun)bathing’ means getting tanned and that might hurt! Hence, employees will need all possible moral support from the ‘strategy-as-incubation’ philosophy, and all possible structural support in terms of solid work methodologies as previously discussed. In an engineering company we have studied over several years, there was a true cultural revolution when engineers and technicians were allowed to have direct contact with their counterparts in customer firms, without obligatorily passing through the project managers. Top management’s support for this change was shown to be the right choice: the company was able to cut development lead-time by 20 per cent and reduce late engineering changes by the same ratio, due to the simplified communication patterns.

Introducing the idea of ‘(sun)bathing in the frontline’ necessarily involves much discussion of culture, and we will link up with this theme again when human resources are analysed below. However, the structural elements such as webs for collaboration are fundamental in order to make this culture take root.

From Anorexic Downsizing, to Agile Right Sizing

Downsizing as the (wrong) interpretation of lean production is definitely out of fashion. What is in fashion, however, is an ever-increasing debate concerning its disastrous effects on human well-being, continuous improvement, organisational learning, innovation and development. In countries like Sweden, where work-related stress is considered a work injury, absence due to this cause is setting new records every month. After the downsizing wave, many companies have been left with only sufficient time and resources for fire brigade operations (cf. Bohn, 2000), i.e. extinguishing the most violent fires of customer complaints or other operative crises. Understaffed services can only ensure that the most urgent tasks are completed and there is simply no time to think or create. Worse, much of an organisation’s intellectual capital might have been thrown out with the bathwater in the name of downsizing.

When downsizing was launched as a management recipe, the ‘new economy’ with its entrepreneurial, technology-driven boom was not even imaginable. What was hot stuff was not brainpower, but cost-cutting. It was not new value creation through innovation, but short-term survival for the upcoming balance sheet. Today, when again we seem to be facing a recession, some lessons have hopefully been learnt so that managers pay more attention to the importance of human capital for survival in a period of crisis. Unfortunately, as the press reports almost daily during the Fall of 2001, massive lay-offs cannot always be avoided. Alarming, however, is the fact that even during the recent boom, studies both in the US and in the UK reported that companies were becoming less and less loyal to their employees, that working atmospheres were becoming harsh, and that people often presented fear and distrust in relation to their managers (Pfeffer and Sutton, 2000).

The true lessons from lean thinking, i.e., value, value stream, flow, pull, and perfection (Womack and Jones, 1996), are still going strong, but they are more closely related to outsourcing and core competence thinking than to downsizing. What we should learn from the previous era of downsizing is that ‘fatness’ is dangerous (and many dotcom start-ups have already experienced this painfully), so we should pay strategic attention to be able to ‘right-size’ our organisations in an ad hoc way, corresponding to rapidly shifting needs in terms of innovation power and flexibility. Remaining agile, with flat communication channels and rapid decision-making paths is crucial for sustained competitive advantage. Becoming anorexic is a disease!

Objective 3: Change the Processes, ‘from Sequenced Steps to Produce, to Systemic Flows for Value’

We have many times talked about value-creating activities. Finally, we come to the core of them – process management. Processes are where tasks and activities are merged and integrated to create this value we are talking about. A formal definition of a process is ‘a specific ordering of work activities across time and place, with a beginning and end, and clearly identified inputs and outputs’ (Davenport, 1992). Processes are intrinsic to structure; they are
constructed based on ‘goal-directed rules’ which are inherent in strategy (Weick, 1979; Dutta and Manzoni, 1999), and processes become ‘alive’ through the people that execute the tasks and activities within them. In this way they are truly systemic.

Many still associate the word process with production processes. But the process notion embraces all value-creating flows of tangibles and intangibles. Below, we will first specify all this through the notion of the value stream. Then, we will discuss important changes in supply chain management and emphasise the criticality of activating an organisation’s knowledge capital in process management.

From Task and Function, to Value Stream

The focus on processes as the main contributors to value creation is basic to the management literature dealing with BPR, Lean Thinking, and Capability Based Competition – the great business recipes of the 1990s. At the dawn of the new century, in the midst of the e-transformation, Internet companies like Amazon, e-Bay, and Dell have shown that processes are more critical than ever as major keys to innovation and flexibility – in their case the processes of procurement, customer ordering, distribution, and delivery.

Focusing on processes presumes that their constituting elements, i.e., different tasks and activities, are ‘best of breed’, in other words, of world class standard. This is today not too difficult to achieve, at least for the most general and standardised ones. For example, enterprise systems or ‘ERPs’ are used to automate low value-adding tasks, and in this context information flows and administrative processes tend to become more and more similar especially between firms competing in the same sector (Davenport, 1998). The real challenge, then, lies in orchestrating tasks and activities in unique ways that are difficult for competitors to understand and imitate. This is where the notion of process actually materialises a core capability strategy, in which core capabilities are defined as a unique, difficult to imitate, mix of basic resources where the latter are common to all players in a given business. Even though for years Ericsson was considered to be the master of manufacturing the best cellular phones in the world, they still have difficulty decoding how Nokia has become the master of selling the best phones... Part of the answer certainly lies in unique processes, and the criticality of the question becomes obvious in view of the recent fundamental restructuring of Ericsson’s phone business through their joint venture with Sony.

A somewhat under-explored concept that summarises the transformations in process management is the value stream (Womack and Jones, 1994). The basic elements in the lean enterprise are a re-focus on a limited number of core activities (a resource-based view), and strong collaborative ties with clear agreements on target costing, levels of process performance, rate of continuous improvement, and cost reduction between the players in each individual value stream (a supply chain integration view). In addition, a particular career management within flat organisations that focuses on skill development (rather than on hierarchical advancement), and on rotation of mid and senior managers between the company’s operations, suppliers and global subsidiaries, are central elements of this new industrial structure. In the lean enterprise, highly specialised companies, using state-of-the-art technology in their special core activity, form value streams where each participant adds a piece of value throughout the supply chain – from raw material to distribution and sales of a finished product. Once common principles have been agreed upon within the value stream, the companies must practice mutual verification with audits conducted jointly. IT’s role in the value stream is important. A company such as Heineken pioneered the use of Extraneats to receive orders from its distributors, which, in turn, allowed the company to effectively share information with suppliers, distributors and retailers (Perez, 1997).

The notations of ‘value stream’ and of ‘lean enterprise’ point to a broad concept of integration, viewed as the inter-linking of an entire system of activities into a synchronised whole. This drives organisations towards the attainment of particular goals, and in the process towards becoming organised and staffed around their value-creating processes. According to Ahmed et al. (1996) integration is an antecedent to flexibility in the sense that it provides on the one hand, a holistic logic in the functioning of business processes, while on the other allowing each individual process to optimise in a manner designed to be efficient as well as flexible. The concept of integration, as articulated here, points to a systemic logic where the parts (i.e. individual processes) have the inherent ability to change but in a concerted manner driven by an overall objective (i.e. that of the system).

From Arm’s-Length Subcontracting, to Integrated Sourcing

Fundamental changes in buyer-supplier relationships and supply chain management were initialsed in the early 1990s when the concept of lean supply was introduced (cf. Lamming, 1993). Since then, all world class innovators, independently of size, have been in the process of abandoning arm’s length subcontracting – except for commodities – and have implemented changes such as:

- Setting up vigorous supplier selection procedures based on quality and technology audits,
- Establishing strong collaborative ties with selected suppliers, keeping them and developing them as
long as they maintain a proven record of high performance,

- Leveraging a core capability strategy within the notion of the value stream in order to reap the benefit of frontline R&D performed by highly specialised suppliers,

- Exchanging information in an open manner, including long-term plans, required working together for mutual benefit within a framework of ground rules for determining prices, ordering and delivery, proprietary rights, material supply and quality assurance,

- Selecting suppliers early, not only integrating them into value-adding process but also outsourcing total innovation, design and development responsibility.

All these changes have paved the way for integrated sourcing, where the current challenge consists of sustaining relationships and leveraging the effects of IT as support for integrated problem-solving (Intranets, VPNs) and optimised transactions (e-procurement and B2B e-commerce). In sectors such as automobiles and electronic appliances, the pressure on suppliers is as severe as ever. What has changed is that the pressure stems less from the threat of losing business as it was in the arm’s-length situation – but is rather driven by the need to develop capabilities and competencies in the areas of innovation and flexibility.

However, e-procurement and global sourcing have led to a ‘Lopez-effect’ in that many companies are returning to arm’s-length relations through Internet-based auction sourcing especially for commodities – something that runs counter to the thinking on buyer–supplier relations outlined above (Narayandas et al., 2000; Wise and Morrison, 2000). This may lead to incidents in the relationship building processes and it will be interesting to see how firms will learn to live with the duality of building relations on the one hand and the increased reach of the Internet – allowing heavy price competition – on the other. The B2B Internet market is still far from being mature. For complex components and services purchase decisions hinge on many variables beyond price.

In order to jointly learn about new product technologies within buyer–supplier relations, the most important lever is to establish mutual trust. This is even more important (Jarvenpaa and Leidner, 1999; Farhoomand, 2000) as companies today are not only sourcing components or raw materials, but new collaborators, market access, contact networks and all kinds of tacit and explicit knowledge potentially useful for your business.

From Archiving Knowledge, to Activating Knowledge

Knowledge Management (KM) is more than a fashionable buzzword. It is the fruit of over a decade of intensive managerial practice and theoretical reflection. Rarely have academics and practitioners interacted in such an intensive way as in the case of developing our understanding of what is maybe the most complex issue facing business today: the creation, storage, transfer, and usage of corporate knowledge. If knowledge is power, if knowledge is an asset, then how can it be turned into competitive advantage? The mission of knowledge management is to visualise and elucidate the knowledge that exists within an organisation, to direct, pilot, and control it so that it transforms into competencies that pay off in business. At the basis of KM is knowledge creation that should be seen as a continuous process (Nonaka, 1994). If no new knowledge is developed, there will be no new ‘raw material’ for knowledge management.

In order to fulfil its mission, knowledge management should act at two levels: transforming individual knowledge into organisational knowledge, and transforming tacit knowledge into explicit knowledge (Mårtensson, 1999). When Hewlett Packard’s former CEO, Lew Platt, said ‘If only HP knew what HP knows we would be three times more productive,’ he put the finger on an important issue. Are you mainly archiving the fraction of corporate knowledge that is explicit, or are you activating the tacit dimension through processes of reflection in practice in value creating projects? The concept of the reflective practitioner (Schön, 1983) is very powerful when it comes to integrating doing and thinking – practice and reflection – in the planning, implementation, observation and assessment of tasks and activities being part of value-creating processes (Söderquist and Nellro, 2000).

A conscious approach to process management not only includes optimising physical and information flows but above all, should focus on the cognitive processes of knowledge creation, knowledge dissemination, learning and use of new knowledge. IT plays a crucial role for successful knowledge management in several ways:

- IT can facilitate cooperation and communication, and ultimately the development of a common cognitive ground (that will be further discussed below) within communities of practice. This, in turn, can help in the process of rendering tacit knowledge more explicit,

- Specific IT tools, such as competence trees, exist for the mapping of explicit knowledge and identification of intellectual capital,

- Databases and data warehouses are essential for the storage and retrieval of intellectual capital,

- Intranets, groupware, and VPNs are important for rendering knowledge available throughout the organisation.

Studies in which we have participated, conducted in large development-intensive manufacturing firms, show that IT tools for KM are instrumental in the
efficiency of knowledge sharing in particular, but only if information sharing and open communication have been made an integral part of the corporate culture beforehand.

The tricky part of knowledge is not only that it is mainly tacit, it is also that people ‘don’t really know what they know until they need to know it’ (Snowden, 2000). In other words, knowledge can be created instantly as a response to a difficult or critical situation. The lever for activating such knowledge is to maximise the occasions for employees to find themselves in critical situations – the essence of the concept of (sun)bathing in the frontline – and to formalise and render explicit the knowledge created on each occasion.

Objective 4: Change the HR Policies, ‘from People as Workforce, to People as Competitive Force’

One of the key characteristics of the information society that has been put forward by a multitude of researchers is the growing importance of the human factor in the organisation (cf. Prastacos, 1998). When Jack Welch, newly retired CEO of General Electric, devoted 40 per cent of his time to ‘people’ issues (Sherman and Hadjian, 1995), he demonstrated the importance of the human factor in today’s organisation. According to Arie de Geus (Vlahos and Gary, 1998), this demonstrates a fundamental shift in the importance of critical economic production factors: ‘A lot of evidence suggests that the dominant role capital has played for several centuries in the creation of superior wealth is diminishing.’ Therefore, developing human or intellectual capital and attracting and keeping the best people are among the most critical issues for today’s organisations (Deloitte & Touche, 1998). One reason for this is that competitive advantage is increasingly obtained through the constant creation of knowledge. Knowledge is created by establishing a learning organisation culture and through managing the information value chain, an analogy of Porter’s concept applied to the transformation of data into knowledge.

Hence, overall, human resource management should emphasise the importance of people not only as workforce, but as competitive force in the broadest possible sense of the word. One important lever is to consider employees as experts in their jobs and reap the benefits of their knowledge and experience. Further, people have always liked to talk to each other, to have a sense of community and to take pride in a good piece of craftsmanship (Robinson and Stern, 1998). Thus, HRM should encourage a culture of shared cognition where people with common values, but with different angles of attack towards problems, can perform truly integrated problem-solving so that we move away from a mechanistic view of co-ordination through, often unproductive, liaison activities. The issue of motivation is also critical. In order to retain the best people, traditional compensation schemes are likely to be insufficient. Finally, innovation starts with an individual and flourishes through playing with ideas in communities of practice and reflection (Nonaka, 1994). Making innovation an everyday job for all employees passes through a perfect understanding of how to promote human creative acts. Let us suggest three key objectives concerning your human resources in the management of change process, reflecting the above.

From Carrot and Stick, to Conscious Coaching

HRM is faced with an enormous paradox: how to deal with the trade-off between the individual’s inherent drive for competition – so badly needed for continuous progress – and the imperative of communication, knowledge sharing, and ‘straight’ relationships between people at all hierarchical levels – so badly needed for continuous progress too! When we discussed (sun)bathing in the frontline, we insisted on the need to root out opportunistic manoeuvring of opinion and affinity. But this activity, which, hand on heart, can occupy a significant share of many people’s ‘work’ time, is exactly what individuals’ inherent drive for competition also might lead to (except for driving continuous progress). So, top managers need to keep a close watch on how employees are actually behaving in the organisation (and themselves look in the mirror too, from time to time) and coach them so that they choose the right paths.

Motivation of employees is extremely complex. If the stick, in terms of threats and destructive workplace stress definitely should be abandoned, simple concepts of motivation, where the carrot equals some standard raise in pay, must also be revisited. Today employees need coaching and this coaching must take into account the multiple dimensions of the human character at work. Consciousness of individual behaviours, wants and needs becomes more and more necessary in order to extract the best from human capital. Emotional payment, including empowerment and encouragement, acts complementarily to stock options and partnering in companies pioneering innovative HRM.

Managers should also remember that their co-workers (or ‘subordinates’ in ancien régime vocabulary) are their best coaches. It surely takes some guts to do, like Chris-
topher Hoening, CEO of a Washington-based B2B Internet start-up, who recruits collaborators under whom he would be proud to serve himself and who will challenge and complement him in every step of his leadership path. In order to win in markets, firms not only need to win their customers but also the confidence, respect and sustained appreciation of their employees, by listening to them, and acting on their opinions.

From Co-ordination, to Integration and Shared Cognition

When there is division of tasks performed by specialists and those tasks are interdependent, there is need for co-ordination (Minzberg, 1979). Co-ordination has long been seen as a core activity that has to be efficiently performed for any organisation to function properly. Now, if managers wish to move beyond co-ordination and actually integrate different tasks, activities, and specialists with different functions in value-creating processes such as new product development, order processing, or after-sales services, there is a need in the first place for increased co-operation and intensive communication between those people involved in the processes in question (e.g. Clark and Fujimoto, 1991). In fact, effective integration has both a ‘hard’ and a ‘soft’ side where some of the elements previously discussed meet. Organisational structure, work methodologies (including methods for framing and analysing problems), skill development programmes, and IT tools for communication are important but tend to give few results if positive attitudes to change, trust between team members and hierarchical levels, and commitment to common objectives fail to emerge.

Let’s go one step further. Isn’t it the case that communicating intensively will be of little use if one group of people does not understand the skills possessed and deployed by another group, for example, for reasons of different professional affiliation? Unless there exists a common cognitive ground between the people whose tasks and activities you want to integrate, how can you expect communication and co-operation alone to result in integration? The relevance of these questions has been scientifically proved (Karlson, 1994). What they stress is that different participants in integrated teams working in integrated processes must also be able to understand non-articulated tacit knowledge possessed by their colleagues. Successful companies apply job rotation in order to achieve a common cognitive ground. It is not only limited to rotating between functions. Unilever rotates managers through various jobs, moving them around the world especially early in their careers. Managers’ potential and progress are monitored through special committees (Barnevik and Kanter, 1994).

In order to create the common cognitive ground and transmit tacit knowledge, learning through the alternating of work tasks within a more or less broadly defined spectrum of activities, is a powerful managerial lever.

From Invention by the Few, to Innovation by the Many

A strong misconception of how to become an innovative company is that it depends on a few, supposedly highly creative people who are given great freedom and an imperative to… invent. However, as Robinson and Stern (1998) argue, the creativity of these high flyers is certainly important but constitutes only a fraction of a company’s creative potential, and its ability to… innovate.

In order to better understand what we are talking about, let us first clarify the difference between invention and innovation. Already in 1911, Schumpeter argued that innovation was the introduction of new productive combinations in the economy, meaning that innovation hides an imperative of market validation, in other words, increased value to an external or internal customer. Inventions, conversely, are new scientifically or technically relevant discoveries that materialise new knowledge. It might take considerable further experimentation, development and refinement before an invention will generate some value to a customer. While the criteria for success of an innovation are commercial (does the innovation provide a basis for economic rent?), they are scientific and/or technical when it comes to invention (is this finding true/real?). As long as competition was more product-driven than service-driven, companies could excel for decades exploiting inventions and patents developed by ‘lone heroic inventors’ such as A.G. Bell, T. Edison, G. Dalén and L.M. Ericsson. Today, invention is still important, but innovation in both tangibles and intangibles has to become a major task for every organisational member.

If managers succeed in instilling the idea that innovation is a much broader concept – and in that sense ‘easier’ to accomplish than invention – and if corporate creativity is allowed to flourish, an innovation culture is already a long way ahead. This is a strategic issue and has to be reflected in a corporate strategy of innovation. If a high-tech company invents once a week, it innovates every second in strategy, structure, processes, activities, and tasks. And who are the generators of innovation? The answer is all employees that feel free enough to act and that know in what direction they should look when taking action. Hence, strategy as incubation plays an important role in order to achieve innovation by the many. Moreover, so does structure. In order to enable innovation by everyone, many of the previously discussed levers, such as maximising customer contacts (to foster a feeling of what really counts in terms of value and involve the customers in the innovation process), and establishing structural networks (to enable people to access information and collaborators in order to take action) are essential. Otherwise, ‘a bad system will beat a good person every time’ Robinson and Stern (1998). Lastly, HRM needs to pay attention to the power of self-initiated activity driven by intellectual curiosity, and the importance of unof-
testing and experimenting with new ideas. ‘If companies have no redundancy or randomness at all, they are limited to only what they can anticipate and plan’ (Robinson and Stern, 1998, p. 192).

Conclusions

Business leaders of today are well aware of the necessity to grasp the changes in the new competitive landscape. Globalisation, and the rapidly expanding use of information and communication technologies, is generating a new revolution comparable to the last century’s industrial revolution, with far-reaching implications in all domains of human activity. Companies today are called to operate in a continuously changing business environment.

In order to survive in the new environment, organisations need to understand the nature of the challenges and opportunities that lie ahead and respond to them in an intelligent manner. This means rethinking their strategy and processes, reconfiguring their structure, and redefining the role of individuals and groups.

This paper has presented an integrated framework in an attempt to offer guidance and advice for the thought process preceding any successful implementation of change initiatives. We argue that to address the continuously increasing challenges and to successfully manage change, organisations needs to be innovative and flexible. Based on the Scott-Morton model, where the organisation can be viewed as the dynamic interaction of five forces/dimensions, we have put forward and synthesised a number of management objectives and corresponding actions/levers that need to be taken in order to successfully manage change. Table 1 summarises the management objectives and the corresponding levers presented and analysed above.

The success of change implementation critically depends on an organisation’s dynamic capabilities, as well as the ability to ‘make sense’ and learn from the experiences obtained. As illustrated throughout the paper, ICT is also an important factor in effectively implementing change.

As a final word of advice: OC is not a static undertaking! It simultaneously involves the whole organisation embracing the entire array of organisational domains be it strategy, structure, people or processes. Equally important, it never stops: OC is a never-end-

Table 1 Objectives and Levers for Managing Change in the New Competitive Landscape

<table>
<thead>
<tr>
<th>Management objectives</th>
<th>Levers to achieve the objectives</th>
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<tr>
<td>‘From duplicated mediocrity, to virtual world class’</td>
<td>◆ Analyse the role of strategy. Use strategy as an incubator for change.</td>
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<td>◆ Develop a customer focused orientation in the entire business, enabling a move from market segmentation to customer individualization.</td>
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<td>◆ Develop and nurture core capabilities while relying on mechanisms of connectivity in order to remain in the frontline of innovation and flexibility.</td>
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<td>‘From formal rigour, to ad hoc support’</td>
<td>◆ Transfer the power from vertical hierarchies to organic webs of collaboration</td>
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<td>◆ Bring all employees out of the hierarchies and confront them with customers in the frontline of value creation.</td>
</tr>
<tr>
<td>‘From sequenced steps to produce, to systemic flows for value’</td>
<td>◆ Focus on processes as the main contributors to value creation and as vehicles for materialising unique capabilities. The notion of value stream focuses the organisation on linking and integrating processes into a synchronised whole.</td>
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<td>◆ Develop integrated sourcing with focus on the contribution of capabilities of each player in the supply chain.</td>
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<tr>
<td>‘From people as workforce, to people as competitive force’</td>
<td>◆ Develop conscious coaching of employees by taking into account individual behaviour, wants and needs, and the multiple dimensions of the human character.</td>
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<td>◆ Move beyond coordination to true integration based on shared cognition and common understanding of multiple perspectives and viewpoints.</td>
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<td>◆ Instil a culture for innovation by all employees in all functions and areas of the business.</td>
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ing process of continuous transformation as it ought to be in a world where Darwin’s motto about the responsiveness to change is more true than ever.

Notes

1. If based on Internet (IP), the VPN technology can extend the use of Intranets to remote offices, mobile users, and telecommuters – while preserving security and confidentiality through encryption of data and solid firewalls at the boundaries of the organisation.

2. Projects go through a series of development stages on their journey from initial idea to commercial launch, each stage is accompanied by a validation gate which projects have to pass in order to proceed (Iansiti and Kosnik, 1994).

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AN INTEGRATED FRAMEWORK FOR MANAGING CHANGE


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