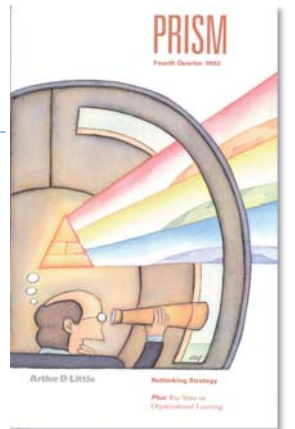


## “Knowledge is the only resource that increases through use”

Ever since Dr Arthur Dehon Little founded the company that bears his name, we have been at the forefront of management thinking - and applying, validating and improving our novel concepts through work for clients worldwide. Our journal Prism is one of the platforms through which we broadcast the knowledge capital that is at the core of our firm.

### Just one

out of a whole range of leading-edge business publications by Arthur D. Little.



As we are celebrating our 120th anniversary, we considered it both fun and enlightening to publicise snapshots from a selection of Prism articles from the last decade of the previous century. We selected 12 articles that address management challenges that are as relevant today as they were at the time of their first publication. We looked for a variety of articles covering the broad spectrum of issues for which we help our clients find pragmatic solutions. And we cannot hide that we paid particular attention to articles that testify of Arthur D. Little's birthright of “smart innovation”.

Obviously, time is passing fast, and we would not want to give the impression that yesterday's solutions will still be unreservedly applicable tomorrow. Neither would we want to claim that all our predictions proved hundred percent accurate. But we humbly find comfort in Isaac Newton's saying: “No great discovery was ever made without a bold guess.” Furthermore, we have added to each article a short commentary from today's perspective.

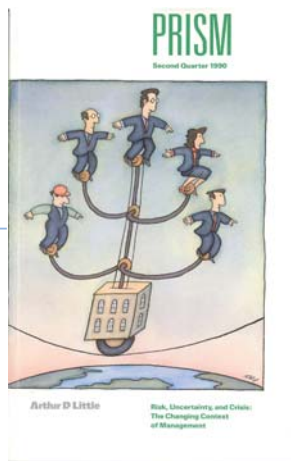
We hope you enjoy the journey into some of our history - and back to the future.

For the full articles, please visit our website at [www.adl.com/insights/prism/](http://www.adl.com/insights/prism/)

## Planning for chaos: A scenario approach to the oil market

“**N**o one can forecast oil prices. Yet a sharp change in oil prices can radically alter business conditions for a very large number of companies. Since prices collapsed in 1986, we have enjoyed a period of relative calm, but the possibility of further turbulence remains with us.”

“Normally, we would expect policy makers to be favourably inclined toward predictions of the future that



### Second Quarter 1990

“The commodity scenario - a more chaotic future in which there are quite violent changes in the oil market - should be taken seriously.”

resemble the past, even if the past is chaotic. Yet most companies and government agencies continue to base their decisions on projections that show regular progressions in energy supply, demand, and price. There are reasons to believe that the Commodity scenario - a more chaotic future in which there are quite violent changes in the oil market - should be taken seriously.”

“Global oil demand appears to be gaining momentum. Although non-OPEC supply increases may continue, they no longer match increases in demand. The size and complexity of the global oil market may make it inherently unmanageable. The strong move toward energy forms other than oil in the early 1980s has lost momentum. In the United States, it would be a brave utility that initiated a new nuclear power plant, in light of current public sentiment, without substantial government support. Nothing seems likely to challenge the supremacy of oil in the international energy equation over the remainder of this century.”

“The world oil market is a highly complex system. It depends on a number of external factors that themselves are interrelated in highly complex, nonlinear ways. Experience has shown that this system cannot be modelled in any but the most simplistic way. When a system can't be modelled, there is reason to believe that it also can't be effectively managed. We believe that the oil market is a system of this type. Relatively minor events can trigger major repercussions in subsequent years.”

*This was a prescient paper, and as relevant today as it was when we wrote it in 1990. World oil markets have shown enormous volatility over the intervening 16 years, driven by such factors as geopolitical events (e.g. the first and second Gulf Wars), energy demand rising more quickly than energy supply, slower-than-expected technological progress towards oil substitutes, etc. But perhaps companies for which oil, and oil prices, are important drivers of shareholder value are more inclined today to adopt “scenario thinking” than they were in 1990, though most oil companies had already adopted such approaches in any case. The landscape of the oil industry has changed dramatically, with mega-mergers between large oil companies, increased importance of national oil companies and service providers, and resurgent “resource nationalism” resulting from today's high prices, as seen in countries as diverse as Russia, Bolivia and Venezuela. Truly, in the oil industry, change is the only constant.*

*by Nick White, Director in the London office  
(white.nick@adlittle.com)*

“Chaos scientists have found that when natural systems approach certain boundary conditions rapidly, the degree of instability increases. If the oil market is such a system, then we would expect instability to increase when demand for oil approaches production capacity. Experience tells us that this has occurred in the past. Not only do traders in a tight market enter a stage of feeding frenzy, but the political pressures within major producing countries mount as their perceived power increases.”

“We believe that the commodity scenario needs to be taken seriously. The

problem is that it has no place in any rational budget exercise. In fact, in many companies there is no mechanism for thinking constructively about how to behave in such a chaotic environment. This is important not only for companies in the oil industry, but also for those whose businesses are affected by oil prices. Companies that do not like the heat of commodity businesses should leave the kitchen. But the best time to exit is at the top of the cycle.”

## Third-generation R&D management

“In the decades ahead, competition will grow increasingly international and will focus increasingly on technological strengths.

Financial and physical resources, work skills, and technology are highly mobile. The firms that succeed in global competition will be those that employ technology to maintain an edge.”

“Despite the crucial importance of R&D, our research has revealed that R&D organisations are rarely integrated spiritually or strategically as full and equal partners in the business enterprises whose prosperity they are intended to serve.”



“Some companies are still managing R&D in what we define as the first-generation mode: they hire good people, provide them with the best facilities money can buy, have them work in a creative - possibly remote - setting, leave them alone, and hope they produce commercially viable results. This construct can be called the Strategy of Hope.”

“In the past decade or two, many companies have adopted second-generation R&D management practices - practices that are distinctly more systematic and more specifically attuned to business needs. Second-generation R&D management recognises the discrete project nature of research and development. It seeks to quantify the cost and benefits of individual projects and to monitor progress against project objectives.”

“Some companies are now moving to a mode of R&D management that is both purposeful and strategic. In this third-generation R&D, general managers and R&D man-

agers work as partners to pool their insights in deciding what to do and why and when to do it, given the needs of each business and of the corporation. They realistically assess costs, benefits, and risk/reward, and they balance these variables within a portfolio of R&D activity that best fulfils the purposes of the corporation as a whole.”

“By concentrating scarce resources and rare skills, these companies organise to promote sharing where it matters. They select targets by setting their fundamental research in a business context, confident that providing researchers with a sense of business purpose is a motivating factor and need not be inimical to creativity.”

“A key component of successful communication in third-generation companies is the ability to express R&D objectives and business objectives in a common language. To ensure sound business results and to avoid compromising its future credibility, R&D's business partners must be equally demanding - and demanded of. They must provide the best information about markets, competitive dynam-

ics, rates of environmental change, costs, and uncertainties surrounding market entry - the full commercial half of the success equation.”

“While the transition to third-generation R&D management entails significant change, its characteristics are elementary and the process needn't be daunting. All it requires is management will, intelligence, and commitment.”

*Our book “Third-Generation R&D Management”, of which the above article gives a summary, became a runaway success, a true bestseller for the Harvard Business Press that has now been published in over 20 languages and is being applied across the world. Integrated R&D and portfolio management are cornerstones of modern innovation management. Therefore the book is still relevant today, and managers continue to use it avidly. Today we see companies struggle in three areas of integrated R&D management. First, the exploitation of multidisciplinary innovation platforms; second, the opening up of these platforms to external partners; and third, developing the capability to be adept at both radical and incremental innovation.*

*by Frederik van Oene, Director in the Brussels office  
(vanoene.frederik@adlittle.com)*

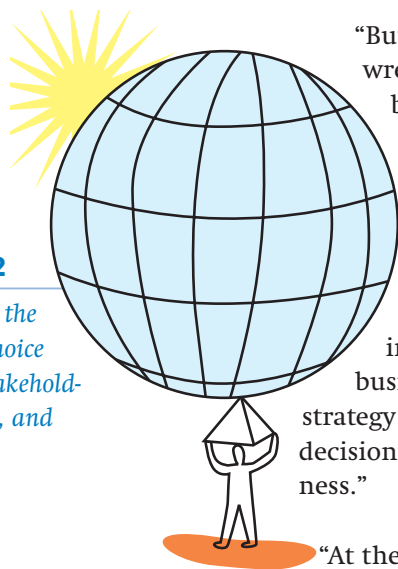
### Second Quarter 1991

*In this third-generation R&D, general managers and R&D managers work as partners to pool their insights in deciding what to do and why and when to do it.*



## Business strategy: New thinking for the '90s

“**S**trategy: what an overworked word! Today we have strategic customers, launch strategic marketing campaigns, and make strategic facilities investments. Let's rethink. What is strategy? To many, strategy once meant selecting the most attractive product/market segments and determining the appropriate level of investment in each. These constructs, which characterise business segments in terms of some variant of industry maturity and competitive position, have proven to be useful reflections of the levels of profitability - and hence the attractiveness - of a business at a given time. They remain valuable aids in addressing questions about expansion into new markets or businesses and in facing challenges of divestiture, business restructuring, or retrenchment.”



### Fourth Quarter 1992

“Strategy thus becomes the definition of a firm's choice of investments in its stakeholders, processes, resources, and organisation.”

“But today fewer companies are wrestling with questions about which business to be in. Key strategic questions today are not just where to compete but to which end, how, with what, and with whom. Strategy helps not only the portfolio manager but also the operating head, who must devise ways to improve the performance of the business. Today, a successful business strategy must be a holistic integration of decisions made at each level of the business.”

“At the top level, the strategy must reflect a detailed understanding of all the business's stakeholders and the ways the business will meet each group's needs. The second level of strategy deals with the firm's selection of what it does. Here one decides issues of scope and competence. Thus, the second level of strategy today involves grappling with questions of where to invest for opera-

tional excellence - perhaps by excelling at processes that are not part of the traditional pattern of competition in the industry. The foundation layer of the High Performance Business pyramid consists of the firm's resources and the organisation of those resources within the company. Strategy thus becomes the definition of a firm's choice of investments in its stakeholders, processes, resources, and organisation.”

*What we labelled “New Thinking for the 90s” is everyone's thinking in the 21st century. Strategy is about making conscious decisions about the actions to take and which not to take. Arthur D. Little's launch of the High Performance Business framework (often referred to as the S/P/R/O-model) triggered a holistic approach to strategy. It is built on the premise that balanced stakeholder satisfaction and the alignment of processes, resources and organisation are key for sustainable success. Over the years numerous senior executives have applied that logic and witnessed its impact on the creation of value. Innovative in its simplicity, the S/P/R/O-model is still valid and widely used today - it is everyone's thinking in the 21st century. Senior executives who are determined to be winners and create future history will put that thinking into practice.*

*by Petter Kilefors, Director in the Stockholm office  
(kilefors.petter@adlittle.com)*

“In setting a course of strategy, businesses face two broad issues: where are we starting from, and where do we hope to go? Where the company is today is the consequence of many past decisions, investments, and external events. The more exciting question is where a company should go. Build on your strengths is one common answer. But many companies have found that understanding their current core competencies and capabilities helps define constraints but does not provide a road map for the future.

Strategy practitioners have long found that robust strategies emerge from creative thought rather than from a priori analytical rules.”

“Strategy formulation today is the exercise of building a coherent whole, a self-reinforcing business. The process begins with the recognition of the limitations dictated by history and then creatively defines the business in stakeholder terms. Once that focus is set, all the remaining aspects of a High Performance Business - its processes, resources, and organisation - must be brought into balance.”

## Lessons from product juggernauts

“When the shouting is over, one fact is clear: what differentiates perennially great companies from others is the products they sell. They share the simple but profound realisation that in discrete product manufacturing, at least, there is no such thing as a commodity product. Yet many CEOs believe there is and, worse, treat their own products as commodities. The notion of a commodity marketplace is one of the most entrenched and misleading

of business myths. While it does have some validity in certain basic industries, even here products are never completely identical. Suppliers can always find ways to differentiate their products from those of their competitors.”

“Applying the notion of commodities to industries and products that are intensely price-competitive can be costly indeed. Trapped

inside this commodity mindset, top managers may miss opportunities to shape their companies into strong, product-based competitors. Cost- and price-obsessed executives see the world in one dimension. Their attitude limits not only the capital available for investment in new products but also the creativity of product teams working to come up with new ideas.”

“In a non-commodity world, there are many opportunities to compete through products: through product proliferation, through value, through design, through innovation, or through service. Today, product proliferation more closely reflects a company's development effectiveness than the depth of its resources. In fact, product proliferation is increasingly recognised as one of the more formidable competitive strategies of the 1990s for all com-



### Second Quarter 1993

“What differentiates perennially great companies from others is the products they sell.”

“The notion of a commodity marketplace is one of the most entrenched and misleading of business myths.”

panies. When it is intensively and effectively implemented, proliferation may be one of the quickest ways to squeeze out competitors and dominate a market.”

“An increasing number of companies are demonstrating that a value strategy of product creation - offering high value at low cost - can be pursued systematically. Two main approaches have proved effective in creating sustainable competitive advantage: the dogged pursuit of continuous incremental improvements, as exemplified by Toyota in cars, and the radical, innovative restructuring of the company's business system, embodied in the remarkable success of Ikea, the Swedish furniture manufacturer and retailer.”

“A number of diverse companies share a passion - some would say an obsession - for the way their products look, feel, and operate. For these manufacturers, design is not a cosmetic add-on but a means of expressing their corporate identity in the marketplace and establishing their products as synonymous with quality.”

“Underlying all these diverse ways to compete is the realisation that products are created through a process. Effective companies recognise that this process is large, complex, and multifunctional. They understand that such processes do not perform

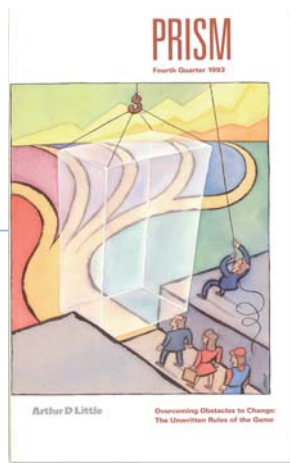
well when left to themselves but must be managed, and all levels of management need to be involved. Therefore, in these companies, the product creation process is studied, documented, standardised, measured, controlled, and continuously improved.”

*This article was written two years before professors Sanderson and Uzumeri published their seminal paper about the revolutionary concept of product platforms and families, using the Sony Walkman story as an example. This concept profoundly transformed the way of thinking about products. It introduced a system-based taxonomy of product architectures, components and interfaces, and even reordered our understanding of the entire innovation process. Following the introduction of this concept, the notions of product discontinuity, dominant design and product modularisation (including the commoditisation aspects) were reinterpreted in a more clear, useful and consistent perspective. By the same token, product proliferation came to be seen not only as a competitive asset but also as a driver of complexity. As is stated in the above article, product proliferation, unless managed effectively, may expose the company to cost increases and profit erosion. As we would say, innovation has got to be smart.*

*by Nicola Diligu, Director in the Milan office  
(diligu.nicola@adlittle.com)*

## Removing barriers to change: The unwritten rules of the game

“In every realm of our lives, whether we're at work or play, there are 'Rules of the Game'. And these rules always come in two forms - written rules and unwritten rules. We all know that corporations also have unwritten rules. And if you're behind the wheel of a corporation, it pays to understand its unwritten rules. Knowing the 'Rules of the Game' is another way to be street smart about your business. In fact, every CEO has an intuitive grasp of the unwritten rules of his or her organisation. You can't get to the top without understanding the unwritten rules.”



### Fourth Quarter 1993

“If you can't codify the unwritten rules within the body of your company, you can never predict where the side effects will spring from to kill your change programme.”

“Once we know the unwritten rules, we see that what we originally thought of as problems are actually unintended side effects. These side effects are caused by hidden inconsistencies between the existing written rules and the new change initiative. Senior management can rapidly remove behavioural barriers by changing the written rules and by reinforcing them, with leadership.”

“If you can't codify the unwritten rules within the body of your company, you can never predict where the

“But where do the unwritten rules actually come from? Well, once a written rule is created, various factors go to work on it: national and local culture, the economic climate, legislation, regulation, people's private agendas, and the perceived behaviour of top managers. All these factors change the written rule - reinforce it, undermine it, bend it - until the written rule has a parallel unwritten rule.”

side effects will spring from to kill your change programme. An important lesson we've learned is that you can systematically uncover and codify the unwritten rules. What's more, you can do it in a way that focuses only on the rules that are affecting specific business issues. That's very important: you don't want to uncover all the unwritten rules of your organisation - only those that are relevant to what you're trying to achieve.”

*When looking back over the last decade, we have found many proofs of “unwritten rules” at work, across all industries. Given the outburst of M&A activity, we have to look no further than post-merger integration processes to understand the importance of the unwritten rules. There are numerous examples of situations where a failing or difficult integration can be traced back to opposite national or local cultures, people's own agendas and motives, etc. - all typical drivers of unwritten rules. Many companies have paid a high price for neglecting the existence of these unwritten rules. But an increasing number of managers acknowledge the importance of understanding the unwritten rules, and have started to learn to use them as a powerful tool for achieving their business objectives.*

*by Monika Stoiber, Director in the Milan office  
(stoiber.monika@adlittle.com)*

“What we're really doing is focussing on what is important to people, and who is important to their ability to get it, and how they go about getting it. Using this approach, we've found we can often uncover the key unwritten rules by talking with a dozen or so people within the organisation. Because everyone knows the rules, large samples aren't necessary.”

“Understanding the unwritten rules of the game puts senior management back in the driver's seat. Traditional approaches to addressing behavioural

problems always focus on changing shared values. But they are trying to change the symptom without changing the factors that make the symptom inevitable. That's why those approaches are developing such a tarnished reputation. They're trying to push water uphill.”

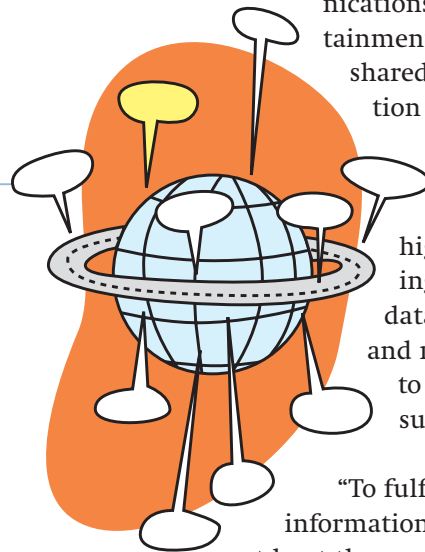
“If instead you find the unwritten rules, you can understand the conflict with what you're trying to achieve. Understand the conflict, and you'll see how to eliminate it. Eliminate the conflict, and you'll get the behaviour you want.”



## The information superhighway

“P rognostications on the information superhighway range from the starry-eyed to the deeply pessimistic. Those taking a cynical view of the information superhighway miss one critical fact: much of the highway is not a future development - it's here and now.”

“The information superhighway is not so much a single entity, or a package of products and services, as a metaphor for an evolving vision of the future of communications, information, and entertainment. We are converging on a shared definition of the information superhighway: the information superhighway is a seamless set of competing, interconnecting, high-speed networks, delivering omnipresent interactive data, text, sound, voice, video, and motion services, accessible to all providers and consumers.”



“To fulfill this definition, the information superhighway must offer at least three critical elements: connectivity (the pieces must fit together); competitive services (it must be an open architecture with open access for providers of services); and accessibility (it must have a variety of access paths for both sophisticated and unsophisticated users).”

“The information superhighway does not need to be built per se or even designed. Given the variety of players, the complexity of the value chain (which varies with different applications), and the diversity of service and product offerings, orchestrating such an activity would be akin to trying to herd cats.”

### Second Quarter 1994

“The information superhighway is not so much a single entity, or a package of products and services, as a metaphor for an evolving vision of the future of communications, information, and entertainment.”

“It is short-sighted to predict that major elements of the information superhighway will fail to materialise because of certain cost elements. Most estimates fail to take into account the hundreds of billions of dollars that have already been spent or the ongoing spending plans of the major players. Technology is dramatically reducing costs. Customers and carriers can and will spend the billions of dollars required. The private sector is not asking for and does not expect the government to fund the information superhighway. On the other hand, the government can play an important role in removing barriers to competition.”

*In 2006 the information superhighway has indeed become an essential part of our personal and professional lives. More and more people are travelling in the fast lane or driving a turbo-charged Lamborghini (a high speed PC or ... a mobile device). Even “very high-speed” fast lanes will be constructed in the coming years (fibre optic or 4G mobile networks). And convergence of telephony (fixed and mobile), internet and media/entertainment is becoming a reality. All these evolutions or revolutions are creating new challenges for operators, manufacturers, media/entertainment/service companies and end-users: how to keep up with the increasing technological diversity of an open environment, how to compensate the permanent price erosion with new revenue streams, how to resist to new non-traditional competitors in a converging environment with blurring frontiers. The information superhighway will continue to evolve year after year by continuously changing our habits and redesigning the competitive landscape.*

*by Ignacio Garcia Alves, Managing Director of Arthur D. Little France (garciaalves.ignacio@adlittle.com)*

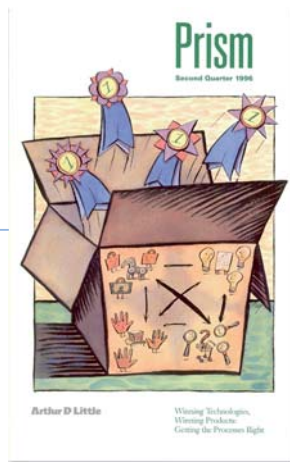
“Large numbers of consumers will buy the emerging applications that are finding their way onto the information superhighway. Consumers (as always) want choice - particularly in the source of their purchases. Consumers want to be entertained more than they want to learn. Consumers place significant value on convenience and simplicity. Consumers are attracted to powerful brand images linked to high-quality products.”

“Development of the information superhighway, while occasionally revolutionary (when enabled by new technology, regulation, or competitive realignment), is essentially

evolutionary. The information superhighway is alive and well. Most people are commuting on it right now. They might not be travelling in the fast lane - which is still under construction - or driving a turbo-charged Lamborghini but they're definitely on the highway and ready to step on the gas.”

## Managing technology discontinuities for competitive advantage

“Quite likely your organisation has a clearly articulated technology strategy for addressing weaknesses and building on opportunities. Most managers stop at this point, however, believing that their strategy is robust enough to cope with any new technology threats or opportunities. Do not be deceived. A good technology strategy will help you cope with predictable trends in



technology, but it cannot lessen the impact of the unexpected. To expect the unexpected, you need to supplement the development of your incremental strategy by looking more widely at long-term trends, identifying where market conditions and technology capabilities create opportunities for new technologies to take hold.”

“At any one time, some technologies are more vulnerable than others. To work out when it's going to be your turn, you need to ask yourself two questions. First, what is the market going to be looking for in the long term? If there is a rapidly growing demand for ever-greater performance, you can assess the targets your technologies will need to meet. Second, are your technologies running out of steam? If they are maturing, with diminishing improvements in performance, or, even worse, approaching a natural limit, you know that they will never be able to deliver more than incremental improvement. Compare this assessment with the market need and you will have a good idea of how vulnerable you are to a technology discontinuity. In particular, if a core technology appears to be running out of steam while market needs are growing inexorably, the conditions are right for a step change.”

“If a core technology appears to be running out of steam while market needs are growing inexorably, the conditions are right for a step change.”

### Second Quarter 1996

“If a core technology appears to be running out of steam while market needs are growing inexorably, the conditions are right for a step change.”

“Substitution can take you by surprise, occurring through an offshoot of the original technology. The reasons are clear. Existing technologies have a critical mass of technology development and a large applications base to justify them commercially. New technologies lack both committed resources and commercial justification. Their development is therefore a result either of an act of faith by management or of a need for a niche application.”

“Look forward and outward. There is a great danger in relying on an internal view of the future. People are constrained by their own interpretation of the world - their mental models. If you put a group of individuals from the same company together to discuss technology trends, you tend to get one of two extremes. Some groups become very cautious, making optimistic people feel that their views are outrageous. Other groups are carried along by shared enthusiasm, and end up forecasting imminent breakthroughs, sweeping rational objection aside.”

*Any successful business strategy has to answer three questions: how to create value, how to capture value, and how to deliver value. This requires a certain degree of forecasting. While several recent developments have improved our understanding of the co-evolution of technologies and markets, forecasting the path of technological change stays fraught with difficulty. Over the last 10 years several industries have gone through wrenching changes, and many companies have been severely challenged by substitution of products, services and business models triggered by technology discontinuities. At the same time, the following formula to cope with uncertainty and discontinuity is still valid: (1) maintain business as usual, (2) look forward and outward, (3) keep an open mind, and (4) place side bets. But companies have also learned the importance of fast action, even under conditions of extreme complexity: waiting for possible substitution to become apparent is a sure recipe for failure.*

*by Antonio Rodriguez, Director in the Madrid office  
(rodriguez.antonio@adlittle.com)*

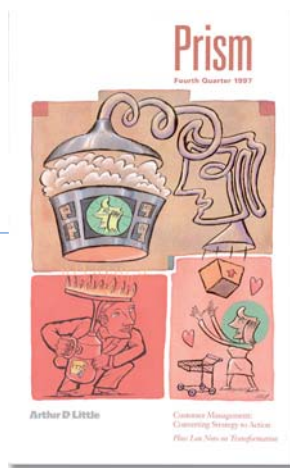
“Substitute technologies, if they are identified at all, tend to be dismissed at first as being appropriate solely for niche applications. Only later, as the limitations of current technologies and the potential of the substitution become more apparent, is the threat taken seriously. But by then it may be too late.”



## How product companies are competing through services

“Leading manufacturers of capital goods are blurring the increasingly artificial distinction between industrial and service industries. These manufacturers are turning themselves into service providers, as service provision is rapidly becoming the cornerstone of their customer management strategy.”

“What we are witnessing is the emergence of a virtual alliance between manufacturers and their customer communities, cemented by services. It goes far beyond simple outsourcing of production or indirect services (such as cleaning, catering, and security). All along the chain, each player's focus on customer care pulls that player's suppliers and pushes its customers into rethinking where and how each of them should create value.”



### Fourth Quarter 1997

“The delivery infrastructure is as critical to service provision as the manufacturing infrastructure is to product provision. If poor delivery is bad for product provision, it is lethal for service provision.”

process. However, very few product companies have anything that comes close to a systematic service-creation process, let alone a service R&D laboratory.”

“While design-for-manufacture and design-for-assembly are critical competencies for the development of new products, services are produced as they are delivered, in

“Product companies have long realised how hard it is to continually develop and launch winning new products. It requires a carefully managed process with well-defined product specifications, a thorough concept phase, extensive prototyping and testing, and early involvement of the manufacturing and marketing functions. Developing winning new services requires an equally well-managed

most cases by a human being in the field and not by a machine in the factory. As a result, design-for-delivery is a critical competency for new service development. The delivery infrastructure is as critical to service provision as the manufacturing infrastructure is to product provision. If poor delivery is bad for product provision, it is lethal for service provision. Customers experience services through their delivery. A second reason for the importance of superior delivery is the opportunity it creates for customer intimacy.”

*Since the article was published in 1997, many traditional product-based companies have managed to grow their service business significantly. For example, at telecom company Ericsson, the service business has grown to 27 Percent of total revenues within the span of a few years. While boosting growth, Ericsson has also provided value by reducing their customers' operating cost, created a more stable revenue stream (in an investment-driven industry), and broadened its interface towards customers. A critical success factor is the delivery infrastructure for service provision, which is the right combination of organisation, processes and resources/competencies. Although many companies have succeeded, there are also many examples of companies struggling to make it happen. While it is relatively easy to specify an attractive value proposition for a service, it can be very difficult, and in some cases impossible, to come up with a strong business case for your own company. Another tough decision is about the extent to which the service business should be integrated with the product business. “Sell more services” is easy to say, yet difficult to do!*

*by Bo Lenerius, Managing Director of Arthur D. Little Nordic (lenerius.bo@adlittle.com)*

“Clearly, any product company that wants to offer services will need to attract service-minded people and nurture a service culture. Yet this is the most difficult task for a product company. Service-mindedness must inspire all employees, both those at the customer front-line and those hidden from the customer, such as R&D personnel.”

“Success stories appear deceptively simple to emulate. The skills that make a product company great in delivering products do not guarantee success in services. Yet the product company has no choice but to embrace services. Its customers have to focus all their attention on satisfying the needs of their own

customers. As a result, they are merciless with manufacturers that give them the slightest headache. Conversely, they will be loyal to a manufacturer that gives them full care. With product technologies spreading fast and product performance less and less differentiating, services are the manufacturer's key to full care.”

## Sustainable development: A path for getting closer to customers

“Sustainable development, a business paradigm for achieving economic goals today while ensuring that the natural and social environment can sustain the economic needs of future generations, offers fresh ways for companies to attract customers, deliver added value, tighten operations, and build enduring customer relationships. The concept recognises the deep interdependence of the three pillars of sustainable development: economic growth, environmental quality, and social well-being (including wealth creation).”

“Most of today's successful companies are built on one or two of these pillars, but very few on all three. The environmental and social components of sustainable development have tended to be seen as obligations, not sources of ideas that could fuel significant growth. When companies leave these factors out of their thinking, however, they relinquish business control of some of the consequences of their economically driven activities - and opportunities to serve their customers better.”

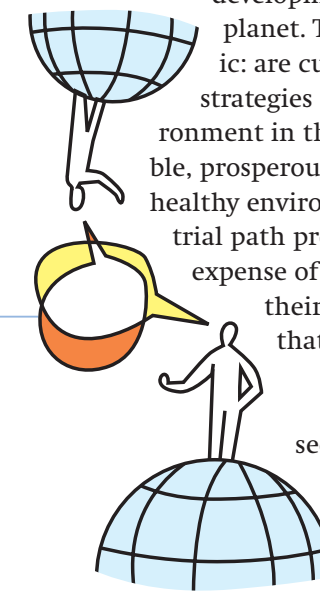
“Designing solely for environmental quality makes no business sense. The essential task is to find the point of synergy between traditional customer needs and sustainable development attrib-

*Since 1997 there has been a growing recognition that sustainability has a role to play in getting closer to customers. This applies particularly to business-to-business companies as their customers need to meet their own sustainability aspirations. The extent to which the predictions discussed in the article have held true vary across the stages of the business value chain. For instance, sustainability is now more likely to be factored in decision making within the design stage; the emergence of new legislation has encouraged the integration of sustainability in the end of life stage. However, an exciting area of development is the application of the principles of sustainability to sales activities and services. One example is the use of mobile phone networks to provide a banking/microcredit service to rural communities in Africa. In other words, the opportunities for using sustainability to get closer to customers have increased; doing so has also become more complex.*

*by David Lyon, Manager in the Cambridge, UK office  
(lyon.david@adlittle.com)*

utes. Very few buyers see saving the environment as a compelling reason to pay more for a new washer. Rather than saying “We must integrate environmental benefits into the products and services our customers want and need” companies should be asking, “Can we wrap environmental benefits within the customer's frame of reference and design products for customers that run cheaper, work better, cost less, and do more?”

“A first step in determining what sustainable development thinking can do for a company and its customers is to sort out its significance and implications for the company's industry. Clear away perceptions of sustainable development as a religion for saving the planet. The issue for industry is pragmatic: are current industry practices and strategies leading to a better business environment in the future - one sustained by stable, prosperous societies and a functioning, healthy environment? Or is the current industrial path providing near-term benefits at the expense of future well-being for companies, their customers, and the societies that sustain both?”



### Fourth Quarter 1997

“What drives an investment in sustainable development is the conviction that the company's strategic shift and new products serve its customers better.”

“Depending on how a company sees these questions, the response it frames could range from an options approach that opens the way to a greater investment if circumstances change, to a major strategic commitment. Ultimately, what drives an investment in sustainable development is the conviction that the company's strategic shift and new products serve its customers better - and position the company to win new customers and achieve dramatic growth. Carried forward in this way, sustainable development thinking becomes a pathway to one of the richest sources of lasting growth: the creation of new businesses and new business areas.”

## The intelligent organisation

“**B**usiness schools have long taught aspiring managers how to manage their companies' classically defined assets: capital and labour. However, they have not paid nearly the same attention to the flow of ideas, skills, and knowledge within a company. All these forms of human capital - competencies, ideas, relationship systems, patterns, and networks - are based on knowledge and can be enhanced through careful knowledge management to yield the highest possible value. Knowledge, after all, is the only resource that increases through use.”



### Second Quarter 1998

*“It is essential to define strategically relevant knowledge - knowledge that meets the needs of your business, both now and in the future.”*

“A learning organisation is one skilled in acquiring, creating, transferring, and retaining knowledge - as well as transforming that knowledge into improved performance or innovative products and services. All these activities depend on human interaction, and in many cases, people must be persuaded to accept knowledge from others.”

“In addition to these cultural issues, the challenge of knowledge transfer is exacerbated by the fact that so much knowledge is tacit, rather than explicit. The transfer of explicit knowledge, which can be captured in formulas, policies, and procedures, is relatively easy. Far more complex is the transfer of tacit knowledge, such as experience and tricks of the trade. The art of knowledge management includes both codifying tacit knowledge for broader access and applying explicit knowledge.”

“It is essential to define strategically relevant knowledge - knowledge that meets the needs of your business, both now and in the future. Far too many companies take

the opposite approach: let's collect everything we know and put it on the network where someone might find it. The result, inevitably, is an abundance of data and lots of redundant information.”

*Over the last decade we have seen massive investments in corporate initiatives boosting the intelligent organisation. These have led, for example, to new job profiles such as dedicated knowledge managers, idea agents and learning officers. As a result, the leading players in knowledge management know how to manage knowledge in a global organisational set-up effectively, establish best practice transfer between organisational units, or benefit from knowledge management tools when integrating another company. At the same time, we notice that the gap between the “highly intelligent” and “less than highly intelligent” players is growing drastically in nearly all industries. The latter still have to combat cultural barriers and silo mentalities as well as a dangerous lack of new ideas. The former will move on and connect smart intelligence units that master strategically relevant knowledge, ideas and capabilities, finally extending their activities to the outside world and co-innovating within a network of partners.*

*by Stefan Odenthal, Director in the Zürich office  
(odenthal.stefan@adlittle.com)*

“Research has shown culture to be the principal determinant of the success of knowledge management. Astonishingly, it is also the most neglected aspect. Most organisations still rely on local solutions, rather than seeking and emulating best practices within the company or outside. And individuals still hoard personal knowledge to justify their indispensability. Managers must understand the mental models that explain the fear of transferring knowledge and the rejection of better ideas. Knowledge management must be integrated into performance objectives and reviews in the form of measurable targets.”

“After identifying your knowledge needs, you should determine what the company already knows. Despite having more information than ever before, management has lost real knowledge of its firms' capabilities, knowledge bases, and people. Rediscovering this decentralised organisational brain - and making it accessible - is a competitive factor. Knowledge has no value unless the employees or teams who need it actually receive it, accept it, and apply it.”



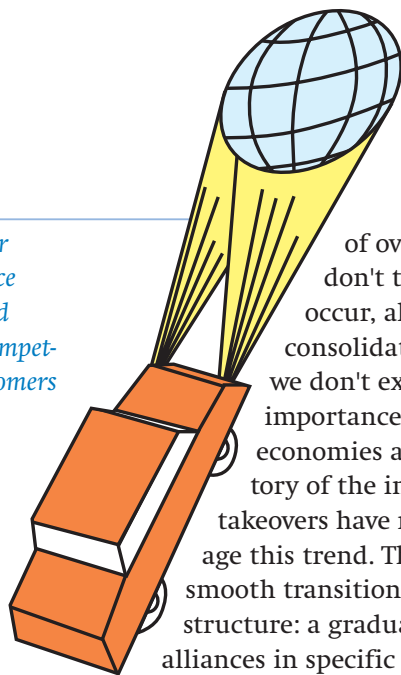
## New paradigms for the auto industry beyond 2000

“The automotive industry will ride a wave of dramatic change over the next decade as new technologies emerge, markets stagnate in developed countries and grow in emerging countries, buying patterns change, and customers become ever more demanding. What different scenarios have in common is that they exacerbate the industry problem of global overcapacity and they require more energy-efficient vehicles.”

“A lethal combination of excess capacity, stagnating demand, and increased pressure from imports drives prices down and break-even points up. To remain profitable, car makers will have to reduce costs in line with expected lower prices in a more competitive global market. Customers want more for less.”

“Despite the industry's problems of overcapacity and price wars, we don't think a major shakeout will occur, although there will be further consolidation in the industry. One reason we don't expect radical solutions is the importance of the industry to most national economies and work forces. Also, in the history of the industry too few mergers and takeovers have made economic sense to encourage this trend. The more likely scenario is a smooth transition to a more grouped industry structure: a gradual increase in joint ventures and alliances in specific fields.”

“New mechanisms need to be established to create closer coordination among OEMs and suppliers. There needs to be two-way sharing of ideas and information for the benefit of all involved. The suppliers should be recognised as a source of ideas and innovations and more firm-



### Second Quarter 1998

“To remain profitable, car makers will have to reduce costs in line with expected lower prices in a more competitive global market. Customers want more for less.”

ly integrated into product development. The OEMs must develop mechanisms to listen to the suppliers and benefit from this valuable source of innovation.”

“In a shrinking vehicle market, managing the brand will be key in the future - when new technologies will quickly become commodities; when key components are shared among different brands and sometimes the same car is marketed under different brand names; when international brand-building with consistent presentation is essential to sustain customer perception and interest, to

charge premium prices, and to generate predictable cash-flows. Companies must appeal to the customer on a more subjective level by creating a car that surprises and delights and by developing a bundle of product and service offerings that appeal to a targeted customer base.”

“These issues will create new paradigms that will change the automotive industry's structure and processes. Crucial success factors for manufacturers include the ability to coop-

erate, the ability to coordinate R&D and engineering activities globally, the willingness to focus marketing and sales efforts on specific customer needs, and competence in managing environmental and safety issues.”

*“Customers want more for less,” is what we said eight years ago. Car customers definitely got more for less! Increasing global competition, changing buying patterns and the need to surprise with emotional products have characterised the last decade. If anything, cost pressure has been even higher than expected, as evidenced by some recent Chapter 11 filings of major suppliers. The most successful smart innovators have turned out to be those who manage to orchestrate a global engineering footprint and network, i.e. balance innovation and complexity in working with competitors, suppliers and globally spread engineering centres.*

*by Wolfgang Bernhart, Director in the Wiesbaden office (wolfgang.bernhart@adlittle.com)*

## Organising on the edge: Meeting the demand for innovation and efficiency

“**T**he redesign of organisations to become more capable of change and innovation while improving operating efficiencies has become an urgent priority for leaders of companies all over the world. The urgency derives from a fundamental acceleration in the business environment. Many people remind us that change is the only constant. But change itself is now changing - in two ways: it is becoming both faster and less predictable. We have to find the new principles for the 21st-century organisation, as well as the tools and skills to create it.”

“Processes such as strategy formation and innovation are fundamentally different from other business processes and cannot be engineered as can such operational processes as customer management, product development, and manufacturing. Strategy and innovation processes require the creation of organisational conditions that enable good strategies and innovations to emerge. These conditions keep an organisation poised on the edge between the chaos of random creativity and the high order of efficiency. It is the condition of the organisation, rather than the process of strategy, that is the source of breakthrough thinking. What must be redesigned for the organisation to stay on the edge is the organisation itself - so that innovations in strategy, products, and processes can emerge easily and be converted efficiently to business value.”

### Third Quarter 1998

“It is the condition of the organisation, rather than the process of strategy, that is the source of breakthrough thinking.”



“We have elaborated a new set of principles intended to meet the needs of organisations living on the edge of innovation and efficiency. These principles build from concepts found in biology, ecology, and complexity. We have found that they are validated in actual business experience.”

*More than ever, the rapidly and unpredictably changing environment stimulates performing companies to adopt new ways to create the adequate organisational context for success. Successful companies will pro-actively evolve both their internal and external boundaries for strengthened competitiveness, often creating network-based organisations. They will permanently innovate for further efficiency and effectiveness of their processes whilst containing complexity. And they will continuously seek to develop adaptive and learning resources. The deep and permanent involvement of the company's employees in creating this organisational context has proven to be a key to success, as long as strongly sponsored and supported by top management. Furthermore, the transformation process must be in tune with the organisational maturity of the company concerned lest it ends in frustration and failure.*

*by Frederic Wirtz, Managing Director of Arthur D. Little Benelux (wirtz.frederic@adlittle.com)*

“The principle of permeable boundaries suggests that a system that wishes to innovate and evolve must be engaged in an ongoing exchange with its environment. The second principle is minimal critical rules: that is, systems that evolve to a higher order learn new and better rules, but for each rule they add they must shed an earlier rule. If rules are not shed, the system will become less smart and less capable of further improvement.”

“Our third principle, flexible resources, enables species to evolve. The prin-

ciple manifests itself in three ways: latent potential, which enables innovations in function; redundancy, which enables additional or new functions; requisite variety, which provides possibilities for innovations through new combinations.”

“The principle of building and aligning aspiration of the members of an organisation is very clearly seen in companies that are adaptive and agile. Aligned aspirations rarely come about as a result of top-down threats or burning platform speeches. They may be precipitated by crisis, but their essential qualities of engagement, widespread commitment, and durability come about through a process of shared visioning, as opposed to vision sharing.”