Chapter 1

‘MANY HANDS MAKE LIGHT WORK!’

1.1 Innovation — A Survival Imperative

Change is a pre-requisite for survival amongst individual human beings and even more so in the organizations which they create and in which they work. Put simply, if an organization does not change what it offers the world—its products or services—and the ways in which it creates and delivers those offerings, it may not survive. In a competitive environment this implies a continuous race, well captured by the character of the Red Queen in Lewis Carroll’s *Through the Looking Glass*, as she explained to Alice: ‘“A slow sort of country!” said the Queen. “Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!”’

The pressure for such constant innovation means that creativity is a key resource. But the image we often have of the creative act is one involving artists or composers, working alone and inspired by the desire to create something to leave to posterity. Whilst ‘creative arts’ of this kind have their cast of determined and individualistic characters, they only represent the tip of an iceberg. We may not all be a Leonardo or a Beethoven but there is a strong drive in human beings, which finds expression in all sorts of creative ways—we want to make and do new things and we want to improve the things we already have and do.

In organizational terms there is a second powerful force at work, which puts innovation centre stage. In a competitive environment there is a kind of simple Darwinian process at work—from the earliest days in the caves it was the people who worked out better ways of hunting, foraging and fire-making who stood the best chance of survival. Sad though it is to reflect upon, it was those who were most innovative in warfare—in, for example, weapons and tactics—who won battles and wars and came to dominate. On a more positive note, it was the drive to innovate in fields like health care and social welfare which meant that the species grew.

In particular, in the economic field this pattern emerged strongly. Societies that were open and exploring grew and prospered through developments in what they traded and how they carried that trade out—for example, new ships, new methods
of navigation, new products and new financial mechanisms to handle transactions. Similar patterns underpin the periods of high growth that accompanied moves like that from an increasingly efficient agricultural sector towards city life and the ‘Industrial Revolution’ in Europe.

1.2 The Range of Innovation

Sometimes change needs to be radical. In the year 2000 a German company achieved its best ever financial performance and came to dominate the European tourism industry via a string of airlines, travel agencies, currency and insurance service businesses. Yet Preussag began life less than a century earlier as the Prussian state mining and smelting company, a public sector body set up to manage the lead mines in north-east Germany! Its journey from lead ore to leisure has been tortuous, a mixture of luck and strategy, which has taken it through such unlikely places as steel manufacturing and mouthwash sales and distribution! One constant theme though is that of change—if this giant had not found ways to shift its offerings and its delivery processes it would not have survived.

Alternatively, take the case of the Mannesmann brothers working in the small German town of Solingen in the late nineteenth century. Their invention of the seamless steel tube was to revolutionize the way in which pipes and tubes of all shapes and sizes were made—instead of their being welded together along a seam with the risks of bursting or leakage, pipes could now be produced that were perfect. The development of their business took the Mannesmann brothers into steel and metals manufacturing and into various applications of pipes and tubes—in construction, in distribution, in boiler making and in other fields. From the 1960s, after a strategic review of the business, they concentrated more on the higher value applications and on making engineering equipment to help use and work with tubes and other metal products. Their interests in control and instrumentation led them to learn about communications and from this they were able to make a bid—successful as it turned out—for one of the German licences for mobile telephony. By the late 1990s they had built up a large operation in mobile telephones, but their progress was eventually halted by a hostile takeover—at the time the biggest in history—by Vodafone–Airtouch.

Once again this is a story of luck and strategic judgement. There were times when the future of the company was very much in doubt and times when its fortunes shone. But the company’s long-term survival depended on the ability of the organization to change and to keep changing itself in a highly turbulent and competitive world.

Not all organizations need to make such radical changes to survive. For many it is a case of continuing to do what they are good at and supporting this with a steady stream of changes and improvements. Rather than a ‘great leap forward’, most innovation is gradual, moving incrementally forward with a sequence of little, cumulative improvements. For example, although the invention of the electric light bulb was a dramatic breakthrough, little improvements in the design of the bulb and in the process for manufacturing it led to a fall in price of over 80% between 1880 and 1896 (Bright 1949). In recent times the dramatic growth
and success of the Japanese car manufacturing industry are primarily the result of a 40 year programme of systematic and continuous improvement of product and process design (Womack et al. 1991). Even the Internet, which appears to be driven by fast and radical change, is actually the convergence of many incremental developments, which go back to networking amongst scientists in the nuclear physics community in the 1980s (Berners-Lee 2000).

Most innovation falls into this pattern of occasional breakthroughs followed by long periods of improvement and development within the space created by the breakthrough (Utterback 1994). 3M—a company that recently celebrated its 100th birthday and so is clearly a long-term survivor—illustrates this well. Although we can point to many famous breakthrough innovations—for example, ‘Scotch tape’, ‘Post-It notes’ and ‘Scotchgard’—most of 3M’s business success comes from being able to exploit these breakthroughs through extended incremental innovation. It sets itself the ambitious goal of achieving up to 50% of its sales from products that it has developed during the previous three years—a stretching target when we consider that the product range extends to over 50,000 items! Feeding this is the ability to manage innovation, not only in product development, but also in creating and refining the processes underpinning those products (Gundling 2000).

In similar fashion many other long-term survivor firms can point to a pattern of careful innovation management covering both breakthrough and incremental improvement within the envelope of those breakthroughs—examples include Corning Glass, Philips and General Electric (Graham and Shuldiner 2001; Welch 2001).

1.3 ‘But That’s Not Really Innovation…’

One of the difficulties we face in trying to manage innovation is that we make assumptions about its nature. For example, we focus on the ‘breakthrough nature’ and discount the value of small increments of change whose impact only appears in cumulative form. Or else we confuse ‘invention’—coming up with a bright idea—with ‘innovation’—the whole process of taking that idea into successful implementation and use. We often assume that, once a breakthrough has been made, innovation stops and imitation begins—and in doing so we neglect the fact that adoption of something new in a particular context can still have a marked effect, even if the original innovation took place decades ago. For example, the impact of medical techniques in the developing world is still significant even though many of them date back a long time.

Throughout this book we will try and adopt an approach to innovation that sees it as a spectrum of activity. At one end of this continuum are radical and even breakthrough innovations of the dramatic kind that we see as headlines in the media. But at the other end are those tiny incremental improvements that often fall off the radar screen but whose effect over time and in cumulative form can still be significant. We will also look at innovation not in terms of absolute novelty—newness to the world—but rather in relative terms; is it an innovation that makes a difference in a particular situation? For example, the adoption of a simple shop-floor layout approach like the 5-S programme (described in Chapter 5) might appear to most people to be trivial, but its impact on a factory where there is a chaotic layout,
where people work without basic discipline or standard operating procedures and where there is regard only for output rather than quality can be dramatic.

Much of the thrust of this book is about involving people who have not normally been considered part of the creative resources available to the organization. In this respect their ability to contribute to breakthrough innovation is likely to be limited, at least in the short term. But they are, nonetheless, capable of making a contribution via such incremental improvements and these can, over time, have a major impact on the fortunes of the firm.

1.4 Managing the Innovation Agenda

The risk is that, even if firms recognize and accept the need for continuous innovation, they may find difficulties in framing an appropriate innovation agenda. With limited resources they may find themselves putting scarce eggs into too few or the wrong baskets. Innovation can take many forms—from simple, incremental development of what is already there to radical development of totally new options. It can range from changes in what is offered—product or service—through to the ways in which that offering is created and delivered (process innovation). It can reflect the positioning of a particular offering; for example putting a well-established product into a new market represents a powerful source of innovation. And it can involve rethinking the underlying mental models associated with a particular product or service (Francis 2001). (This distinction has similarities with the ‘value chain’ approach, which sees upgrading via product and process change, change in position within the value chain and moving to a different value chain (Kaplinsky and Morris 2001).)

<table>
<thead>
<tr>
<th>Product/service innovation</th>
<th>‘Do better’ innovation</th>
<th>‘Do different’ innovation</th>
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<tr>
<td>innovation—change in what is offered</td>
<td>This is incremental product development. For example, the Bic ballpoint was originally developed in 1957 but remains a strong product with daily sales of 16 million units. Although superficially the same shape, closer inspection reveals a host of incremental changes that have taken place in materials, inks, ball technology, safety features, etc.</td>
<td>Radical shift to new product concept for the firm, perhaps for the industry as well. An emerging example of this could be the replacement of the incandescent light bulb, originally developed in the late 19th century by Edison and Swan (amongst others). This may be replaced by the solid state white light emitting diode technology patented by Nichia Chemical. This technology is 85% more energy efficient, has 16 times the life of a conventional bulb, is brighter, more flexible in application and is likely to be subject to the scale economies associated with electronic component production</td>
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TABLE 1.1 (continued)

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<tr>
<th>Process innovation—change in the ways in which it is created and delivered</th>
<th>'Do better' innovation</th>
<th>'Do different' innovation</th>
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<td>These are incremental improvements in key performance parameters, for example, cost reduction, quality enhancement, time reduction, etc. A good example of incremental process innovation can be found in the ‘lean production’ field, where intra- and inter-firm efforts to drive out waste have led to sometimes spectacular performance improvements—but achieved within the same envelope established by the original processes (Womack and Jones 1997)</td>
<td>These are radical shifts to new process routes for the firm and, perhaps, for the industry as well. Examples are the Bessemer process for steelmaking replacing conventional charcoal smelting, the Pilkington float-glass process replacing grinding and polishing, the Solvay continuous process for alkali production replacing the batch mode Leblanc process, etc.</td>
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<tr>
<td>Position innovation—change in the context in which it is applied</td>
<td>This includes the launching of a product or deployment of a process in familiar context and redefining the perception of a product for customers. For example, in mobile telephones a shift has taken place from a business tool to a leisure and recreation aid, with considerable associated incremental product and process development (ring tones, cartoon displays, text messaging) emerging as a result of such positional innovation</td>
<td>This requires creating completely new markets rather than extending and deepening existing segments or incremental brand identity changes (Moore 1999). For example, satellite navigation was originally developed for military use, but is now used by sailors, motorists, surveyors and even postmen. Christensen’s study of the rapid evolution of the hard-disk drive industry highlights the ways in which unimagined markets can quickly become the key segment (Christensen 1997)</td>
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<tr>
<td>Paradigm innovation—change in the underlying mental models surrounding it</td>
<td>These are evolutionary changes in the way that business activities are undertaken that provide the opportunity for incremental innovation in paradigm or business model. An example might be rethinking the Rolls-Royce motor car business as that of supplying luxury experience, competing with expensive watches, holidays, clothes, etc., rather than as a transportation mechanism</td>
<td>These are new business or industry models, for example, ‘mass production’ vs. ‘craft production’ (Freeman and Perez 1989). An example of a recent transformational innovation in paradigm was the development of Internet solutions to many business areas such as banking, insurance, travel, etc. (Evans and Wurster 2000)</td>
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The challenge is for firms to be aware of the extensive space within which innovation possibilities exist and to try and develop a strategic portfolio that covers this territory effectively, balancing risks and resources. Table 1.1 maps out some options.
1.5 Learning, Knowledge Management and Innovation

‘Innovation has nothing to do with how many R&D dollars you have... it’s not about money. It’s about the people you have, how you’re led, and how much you get it.’

(Steve Jobs, interview with Fortune Magazine, cited in Kirkpatrick (1998))

What an organization knows at any moment in time is deployed in the products or services that it offers and the processes whereby it produces that offering. As Figure 1.1 shows, knowledge provides the fuel for innovations—the changes that help it catch up and sometimes move ahead. This is the heart of the ‘core competence’ argument, which suggests that organizations need to work at building and managing their knowledge resources (Kay 1993; Prahalad and Hamel 1994; Coombs and Metcalfe 2002).

![Diagram of Learning, Knowledge, and Innovation](image)

**FIGURE 1.1** Learning, knowledge and innovation.

This puts a premium on the processes that it has in place for learning and knowledge management. Not for nothing do people speak of ‘the knowledge economy’ or of ‘competing on knowledge’ (Teece 1998). In a world where access to information is fast and widespread, those organizations that can create and use their own knowledge are likely to be able to build and sustain competitive advantage. So organizations need to become good at learning—and occasionally forgetting (letting go of knowledge that they no longer need).

If learning and knowledge management are so important, then we should look at who is involved in this core renewal process. And here we reach an interesting conclusion. Organizations themselves don’t learn—it is the people within them that do that (Hedberg 1981). This does not mean that managing learning at the level of the organization is unimportant; organizations provide the stage on which individual learning can take place and some stages are more supportive than others. In the end learning is essentially a human process involving individuals and groups in different configurations.

Whether people are skilled and competent at learning or not is a variable, as are the conditions under which they operate within the firm. Those organizations that invest in developing the specific knowledge and skills of their employees and the general capability to learn, those that provide opportunities and space for interaction and shared learning, those that emphasize effective communication and sharing of information, those that recognize and reward learning
behaviour—these are likely to be the organizations that succeed in developing into the kind of learning organization that is much talked about but hard to achieve.

So in this sense people really are the organization’s most valuable assets—not because this phrase makes good publicity in the annual report or mission statement, but because people actually do represent the powerhouse for learning. Without actively committed and focused learning, any organization is likely to stagnate and will struggle to create the steady stream of change it needs to survive. Investments in assets like buildings, equipment or IT systems may help the business, but without a core learning capability the long-term future must be in doubt.

1.6 The Innovation Paradox

The paradox that this raises is simple to express but hard to understand. Organizations need creativity and active learning in order to survive in a hostile environment. In today’s turbulent times with challenges coming from all directions—uncertainty in competing in a global market, unpredictability in political and social stability, technological frontiers being pushed back at a dizzying pace—the one certainty is that we need all the creativity and learning capacity that we can get.

Yet the majority of our organizations still throttle back their capabilities in this direction by only looking to a relatively small group of specialists to provide this. Individuals and groups are ‘licensed’ by virtue of their specialist training or position in the organization—as ‘R&D’, ‘engineering’, ‘market research’, ‘systems design’, etc. Although more extreme forms of hierarchical management have begun to fall away, there is still a sense in which many organizations assume that innovation comes from these special zones in the organization.

What we are seeing is the working through of an old—but not immutable—model of how to organize. Looking back, we can see that managing agricultural production was the dominant challenge for all countries until comparatively recently. And, whilst the forms of management were often less than enlightened (including a sizeable element of slavery), there was a clear relationship between what people did and what they produced. The vast majority of work was as direct labour rather than involved in indirect activity, and the challenges faced were relatively simple tasks. Where specialized skills were needed—craftsmen working as wheelwrights, as blacksmiths, as masons, as carpenters, etc.—there was the Guild system to regulate and professionalize. Here strong emphasis was placed on a learning process, from apprenticeship, through journeyman to master craftsman, and this process established clear standards of performance and what might be termed ‘professional’ values. Again there was a close link between what a craftsman produced and the man himself (who often had a strong sense of pride in the quality of his work).

The Agricultural and Industrial Revolutions changed all of this. The gradual drift towards the cities and the increasing use of machinery led to a rethink of how operations were managed. Its origins can be traced back to Adam Smith and his famous observations of the pin-making process, which marked the emergence of the concept of the division of labour. By breaking up the task into smaller, specialized tasks performed by a skilled worker or special machine, productivity
could be maximized. During the next hundred years or so, considerable emphasis was placed on trying to extend this further, by splitting tasks up and then mechanizing the resulting smaller tasks wherever possible to eliminate variation and enhance overall managerial control (Piore and Sabel 1982; Kaplinsky 1984; Best 1990).

The resulting model saw people increasingly involved as only one of several ‘factors of production’—and in a rapidly mechanizing world, often in a marginal ‘machine-minding’ role. At the same time the need to co-ordinate different operations in the emerging factories led to a rise in indirect activity and a separation between doing and thinking/deciding. This process accelerated with the increasing demand for manufactured goods throughout the 19th century, and much work was done to devise ways of producing high volumes in reproducible quality and at low prices.

Developments in these ideas took place in a number of locations, each adding elements to the emerging model. As Jaikumar (1988) puts it:

‘Whereas the English system saw in work the combination of skill in machinists and versatility in machines, the American system introduced to mechanisms the modern scientific principles of reductionism and reproducibility. It examined the processes involved in the manufacture of a product, broke them up into sequences of simple operations, and mechanized the simple operations by constraining the motions of a cutting tool with jigs and fixtures. Verification of performance through the use of simple gauges insured reproducibility. Each operation could now be studied and optimized.’

With the rise of industrial society came the increasing pressure to separate out hand and brain—so that by the turn of the twentieth century it was possible for people to speak of ‘thinkers’ and ‘doers’. Developments in manufacturing organization and technology moved rapidly and the emergence of a ‘scientific management’ approach meant that skilled specialists were able to analyse and devise ‘the one best way’ to accomplish a wide range of tasks. It is hard to argue with the results they were able to achieve—for example, in a series of famous experiments Frederick Taylor was able to increase dramatically the productivity of businesses as diverse as steelmaking, dock handling and engineering (Taylor 1947).

The most famous example of this ‘scientific’ approach was probably in the emerging models for automobile manufacturing, which were pioneered by Henry Ford and his team of engineers. Faced with the challenge of a widely differing workforce, many of whom lacked manufacturing skills and in a lot of cases spoke poor English as a second language, they developed an approach to making cars that had profound impacts. From a highly variable activity with low productivity and variable quality, the ‘mass production’ system changed car manufacturing dramatically. The dramatic impact of this pattern on productivity can be seen in the case of the first assembly line, installed in 1913 for flywheel assembly, where the assembly time fell from 20 man minutes to 5. By 1914 three lines were being used in the chassis department to reduce assembly time from around 12 hours to less than 2 hours.

This approach extended beyond the actual assembly operations to embrace raw-material supply (such as steelmaking) and transport and distribution. At its height a factory operating on this principle was able to turn out high volumes (8000 cars/day) with short lead times—for example, as a consequence of the
smooth flow that could be achieved, it took only 81 hours to produce a finished
car from raw iron ore—and this included 48 hours for the raw materials to be
transported from the mine to the factory! In the heyday of the integrated plants
such as at River Rouge, productivity, quality, inventory and other measures of
manufacturing performance were at levels that would still be the envy even of the
best organized Japanese plants today. Table 1.2 highlights some of the key features
of this blueprint for manufacturing, typified in the car plants of Henry Ford but
applied to many other industries throughout the 1930s and beyond.

**TABLE 1.2** Characteristics of the Ford/Taylor system for manufacturing, circa 1920.

- Standardization of products and components, of manufacturing process equipment, of tasks in the
  manufacturing process, and of control over the process
- Time and work study, to identify the optimum conditions for carrying out a particular operation
  and job analysis, to break up the task into small, highly controllable and reproducible steps
- Specialization of functions and tasks within all areas of operation. Once job-analysis and
  work-study information was available, it became possible to decide which activities were central to
  a particular task and to train an operator to perform those smoothly and efficiently. Those activities
  that detracted from this smooth performance were separated out and became, in turn, the task of
  another worker. So, for example, in a machine shop the activities of obtaining materials and tools,
  or maintenance of machines, or of progressing the part to the next stage in manufacture, or quality
  control and inspection were all outside the core task of actually operating the machine to cut metal.
  Thus, there was considerable narrowing and routinization of individual tasks and an extension of
  the division of labour. One other consequence was that training for such narrow tasks became
  simple and reproducible and thus new workers could quickly be brought on stream and slotted into
  new areas as and when needed
- Uniform output rates and systemization of the entire manufacturing process. The best example of
  this is probably the assembly line for motor cars, where the speed of the line determined all activity
- Payment and incentive schemes based on results—on output, on productivity, etc.
- Elimination of worker discretion and passing of control to specialists
- Concentration of control of work into the hands of management within a bureaucratic hierarchy
  with extensive reliance on rules and procedures—doing things by the book

There is little doubt that this was a ‘better’ way of making cars—at least in
terms of the overall production figures (although the question of whether the
conditions under which manufacturing took place were better is perhaps more
open to question). But the trap it set was to help embed two powerful beliefs:

- That there is only one ‘best’ way and
- That this was something which only specialists could be involved in designing
  and refining

The belief in the one best way began to fade as others found different ‘better
ways’ and the need for constant innovation asserted itself in this and the many
other industries which began rapid growth in the early 20th century. Ford’s
dominance of the car industry fell away as the market began to demand more
than the standard Model T in ‘any colour as long as it’s black!’ Innovation in
manufacturing and services increasingly began to focus on meeting a number
of different targets, involving non-price factors like speed of response, range of
choice, degree of customization, quality, design, etc. as well as the consistently
important one of price. Faced with a moving target like this the ‘one best way’
model began to show cracks, although the dominance of the ‘Fordist’ approach can still be seen as we move into the 21st century (Best 2001).

The underlying power of the second belief comes from a long history of marginalization of the potential contribution that much of a workforce could make. Clearly this is not the product of a conspiracy on the part of managers, but rather an unfortunate by-product of centuries of trying to make operations more efficient and effective.

1.7 From Doing to Thinking Organizations

‘Microsoft’s only factory asset is the human imagination.’

(Bill Gates)

It is easy to sit back as armchair critics of this view. Of course, we would agree that there is a nonsense about seeing people as either thinkers or doers. Any quick poll of a group of people in any organization about how they spend their spare time reveals an enormous palette of skills and experience—people are artists, musicians, teachers, organizers, accountants and many other things besides. In carrying out these roles they are all deploying huge reserves of creative problem finding and solving skills of the same kind as we need in organizational life. The statement ‘with every pair of hands you get a free brain’ has a resonance that it is pretty hard to ignore.

But creating the kind of organization in which everyone feels a sense of involvement and shared purpose and uses their individual and collective creative abilities to push forward the innovation frontiers is not simple. Not everyone wants to go in the same direction and people have different motivations for working, some of which do not include more than an instrumental relationship. Even if they do ‘buy in’ to the idea of contributing their ideas, they may lack formal skills and experience about how to make a contribution, or feel reluctant to offer what others might see as silly or simple ideas. Others might, reasonably, ask, ‘what’s in it for me?’—what share of the additional benefits arising from their ideas to the firm might they expect to receive? Organizing for higher involvement in the innovation process will need new structures and procedures if it is to be more than just another piece of wishful thinking.

It has proved hard enough to manage specialists in terms of enabling their creativity and innovation. The challenge of extending this to a much broader part of the workforce throws up real questions about how much management time and organizational resources it might consume—and whether these costs would outweigh any benefits.

Why should organizations bother with high-involvement innovation? There are two answers to this—the first is that there is increasing evidence from a wide range of sectors, geographical locations and firm sizes to suggest that it does make sense to mobilize people because of the direct financial benefits that they contribute. Chapter 2 explores this theme in more detail but it is worth noting some interesting data from the USA, which reviews several large-sample surveys and concludes that high-involvement human resource practices can be correlated with superior company performance in terms of sales revenue, shareholder value and profitability (Huselid 1995). This is matched by experience and research in countries as far afield as Finland, Australia and South Korea.
But the second reason is perhaps more compelling. In an environment where survival depends on change the organization needs the capacity to renew itself—and to do so on a continuing basis. Today’s competitive conditions mean that the rate at which that needs to happen is accelerating and imitation and diffusion of ideas become facilitated by global communications, competition, etc. Particularly for high-income countries the solution to the problem becomes one of knowledge competition—maintaining a competitive edge through possession of knowledge assets, which are hard for others to copy, even if they have information about these assets.

The ability to maintain knowledge competition will depend on how capable the organization is at learning—and, since the process of learning is one which is people-based, the likely advantage will lie with those who have most active learners and the capacity to involve and co-ordinate them.

1.8 High-Involvement Innovation

This book looks at the theme of developing active involvement in the innovation process. It is not just about increasing participation from those who have been marginalized in the organization’s thinking processes (although that is a big gap which most organizations need to close). It is also about how to get the best from highly skilled and creative staff who may feel equally frustrated and unable to express their creative capabilities—in some case to the point where they leave the organization and set up elsewhere.

There has been much recent interest in this topic of employee involvement and particularly in the experience of mobilizing what in Japan is called kaizen—the continuous stream of small improvement ideas that each worker is able to contribute. There is much that we can learn from this experience, and we will explore it in detail in the book. But such a view carries with it a risk, that innovation is seen as a binary task. No longer do we have the separation of thinkers and doers in the organization but instead the boundary is along lines of the novelty and impact of the innovations worked upon. Specialists do the clever things and the rest get on with the small improvements.

There is clear psychological evidence that different people have different preferred creative styles—the ways in which they like to deploy their creativity—with some feeling comfortable with high-risk projects and others preferring to work within clear and limited parameters (Kirton 1989). But everyone carries the basic creative capabilities for finding and solving problems and exploring new opportunities—and, given requisite skills, structures and support, can make a contribution right across the innovation spectrum (Rickards 1997; Cook 1999). For this reason we look in the book at the theme of high-involvement innovation, not just in terms of bringing into the process many people who have hitherto been excluded from it but also how they (and their working environment) can be developed to fulfil high-level innovation tasks.

The book draws on a variety of sources and much published research and documented experience in innovation management. It makes particular use of the findings from a ten-year research programme which has been running at the Centre for Research in Innovation Management (CENTRIM) at the University of Brighton, where a series of projects exploring issues in creating and sustaining
high-involvement innovation have been carried out with a network of firms representing a wide range of size, sector and experience (Bessant et al. 1994).

1.9 What’s in a Name?

The concept that the book explores is one of developing high involvement in innovation—something which is certainly not a new idea. Considerable work has gone on looking at it from outside organizations and trying to develop and sustain it within them. These explorations go back decades (and even centuries in some cases), so we should not be surprised to find the experience referred to by many different labels.

For example, we have already mentioned the term kaizen, which came to the attention of Western organizations in the late 1970s as they began to appreciate the significant performance gains that Japanese firms were able to make through mobilizing workforce participation in improvement innovation. The term was often translated as ‘continuous improvement (CI)’ and there is an extensive body of work that looks at high-involvement innovation under this banner (Robinson 1991; Schroeder and Robinson 1991; Boer et al. 1999).

Similarly the drive for quality improvement in products and services in the later part of the 20th century led to an interest in systematic approaches, which moved beyond the use of powerful statistical tools for quality control and into approaches that considered the role and contribution of the individual worker and the design of organizations that would facilitate it.

‘Company-wide quality control’ was a concept originating in the USA, but one which found successful adoption in Japan (Feigenbaum 1956). It re-emerged as the concept of ‘total quality management (TQM)’ and was adopted widely in the rest of the world, particularly as the drive to demonstrate conformance to quality assurance in processes using international standards (such as ISO 9000) was promoted by large companies and even governments. TQM covers a wide range of interpretations but a core theme is, once again, that of high involvement in improvement innovation (Kanji 1996).

Similar stories could be told around ‘lean thinking’ or ‘learning organizations’ and a host of other labels, but our concern is less with these labels than with the underlying principles of high-involvement innovation. For the sake of clarity the term ‘high-involvement innovation’ (sometimes shortened to HII) will be used throughout the book, but many of the illustrations make use of experiences with CI, TQM, lean etc. and are reported as such.

1.10 What’s Not in the Book?

Innovation is a big topic and has been studied from a number of practical and research perspectives (Van de Ven et al. 1989). This book offers one perspective, taking as its core theme the need to extend involvement to people who have hitherto often been marginalized in the process. But ‘high involvement’ in its widest sense is more than just bringing more people into the process. It is, for example, about:
• Engaging cross-discipline knowledge sets and looking for ways to enable this to happen (Jassawalla and Sashittal 1999; Sapsed et al. 2002)
• Encouraging the formation and use of ‘communities of practice’, often forming at the boundaries of knowledge (Wenger 1999)
• Encouraging and enabling inter-functional and cross-process working within and between organizations (Davenport 1992; Cooper 1994; Swan 2003)
• Engaging in shared learning and development across organizational boundaries—and increasingly across regional and national ones (Dodgson 1993; Oliver and Blakeborough 1998; Coombs and Metcalfe 2002)

Although we will touch upon these themes during the book, their detailed exposition remains a task for future research and for other writing projects.

1.11 Structure of the Book

Building and sustaining high-involvement innovation is hard work. Why should organizations bother with this approach? Chapter 2 reports on case examples from a wide variety of countries, sectors and firm sizes to show the significant strategic benefits that come from paying attention to this theme. It covers continuous improvement (‘doing what we do better’), where examples abound of success with kaizen, lean production, total quality management and other ways of mobilizing involvement and commitment to innovation. However, it also covers the challenge of radical innovation—‘doing something different’—which is less frequent but more dramatic and which can also benefit from a high-involvement approach not only to creating such change but also to its successful implementation.

At first sight, high-involvement innovation is a ‘no-brainer’. Faced with the idea that ‘with every pair of hands you get a free brain’, any organization would make a high priority of trying to motivate and mobilize that brain to help it achieve its goals. Not for nothing do many organizations make the explicit point in their mission statements, annual reports and other communications that ‘people are our most valuable asset!’.

However, behind this apparently axiomatic point lies the real difficulty. In practice few organizations can claim to mobilize the full range of creativity and innovative capability that their employees have to offer. This arises not out of a conscious desire to marginalize them but as a result of the ways in which organizations have evolved—roots which go back hundreds of years and which shape the dominant beliefs about how organizations work. Chapter 3 looks at the blocks and barriers to high-involvement innovation and the need to change ‘the way we do things around here’—to develop and sustain a fundamentally different organizational culture.

Without a framework against which to measure it, high-involvement innovation remains simply a worthy sentiment. Chapter 4 presents a model, based on ten years of research in innovation management, which allows organizations to position themselves and to think about how they might carry forward the development of an innovation culture. It is described in detail in an appendix, but this chapter will introduce the basic features.

The model has two dimensions—performance and practice. The former refers to the measurable indicators of innovation whilst the latter deals with the extent to
which an innovation culture has been developed and implemented. Organizations can use this framework to position themselves and ‘benchmark’ themselves against others and/or against a model of good practice and performance.

The value of the model is that it recognizes that firms differ in a number of ways (including how far along the journey to high involvement they have already travelled) and that there is no single solution that will fit all of them. Instead it uses a series of ‘archetypes’ of organizations at different stages in their development and examines typical blocks and barriers associated with these stages and how they can be dealt with.

These archetypes and progress between them as stages on the journey towards a successful and sustainable innovation culture are described in the next five chapters.

Chapter 5 is about firms trying—sometimes for the first time—to make innovation a more widespread activity. This early stage is typified by organizations for which innovation is a fairly random or ad hoc activity and those that place high reliance on small ‘licensed’ groups of innovators. It looks at the limitations of such an approach and at ways of extending involvement in the innovation process to bring in more people.

Chapter 6 describes the next stage, which is typical of an organization that is trying in a formal and systematic way to extend participation in innovation. Many activities in the direction of ‘kaizen’, lean teams or quality circles would come under this banner. The strengths and benefits of such an approach are explored and ways to help embed and sustain such initiatives are described. At this level firms can expect to obtain benefits, but these will often be rather localized and limited in their impact; there is also a risk that activities at this level eventually run out of steam and fall away after the initial ‘honeymoon’ period.

The problem of fade-out mentioned above reflects a lack of connection between the bottom-up capability of high-involvement innovation and the top-down focus and direction of such activity. Chapter 7 describes the next stage, which involves providing a clear strategic focus linked to the needs of the business—and deploying it successfully throughout the organization. It also brings to the surface the importance of measurement as a key tool for ensuring progress is made on a continuing basis.

Firms that are able to build and sustain strategic innovation systems can point to significant ‘bottom line’ benefits on a sustained basis, for example year-on-year cost reductions or quality improvements. Whilst these are of considerable value, the limitation here is that innovation is by definition ‘doing what we do better’—and, whilst there is enormous scope for driving out waste and for continuous improvement, the possibilities for doing different things are not well covered.

Chapter 8 looks at the very advanced stage in the development of high-involvement innovation where the organization is confident enough to ‘let go’ and allow people to experiment with their own ideas with a high degree of autonomy. It is attractive in that it opens up the possibility of radical innovation—doing something different—but it also carries risks since experimentation of this kind will inevitably involve making mistakes. In many ways it is the kind of culture that one might expect to find in an R&D laboratory, but not as a part of the general ‘way we do things round here’ in the organization as a whole.
Creating the conditions under which people can act autonomously is not easy and in many cases firms have solved this by creating separate units or 'skunk works', where people are encouraged to be ‘intrapreneurs’ and to challenge the status quo without the need to leave the organization in order to follow up their ideas.

The phrase ‘learning organizations’ was fashionable in the late 20th century but it has been superseded by other apparently more compelling prescriptions. However, the underlying theme—of mobilizing the full capability of the organization in creating, assimilating, capturing, sharing and using knowledge—remains of critical importance. Chapter 9 looks at the mature high-involvement innovation organization in which innovation is a way of life and where there are multiple mechanisms in place that ensure the high levels of involvement in learning and knowledge management that are needed to become and remain competitive.

Chapter 10 addresses the question of making the journey towards high-involvement innovation. It reports on the experiences of a number of organizations that have been wrestling with this challenge over many years and draws together an approach to such organizational development, which firms can use to maintain momentum in their quest for higher and sustainable levels of participation in innovation.

In the final chapter (Chapter 11) we look at new and emerging challenges in the field of high-involvement innovation. In particular the chapter looks at the changing innovation agenda, where new strategic challenges such as concern for environmental sustainability are coming to the forefront. It also looks at the challenge of building and sustaining high-involvement innovation at the inter-firm level. With an increasing emphasis on networks comes the need to think about and learn to manage beyond the individual organization—and this poses significant questions about how to develop and sustain an innovation culture at network level.

References


