

MANAGING CORPORATE CHANGE

"Business process re-engineering, total quality management, simultaneous engineering, flexible manufacturing,...." - these are all concepts fashioned by business academics and management consultants to respond to change, building on 'sciences' such as information technology (IT), occupational psychology and organisational theory. The plethora of approaches, dressed in management jargon and 'buzzwords' have had both evolutionary and revolutionary impacts on many companies.

This note outlines some of the current management techniques being employed by UK business and their strengths and weaknesses.

PRESSURES FOR CHANGE

Today's business environment is changing rapidly, forcing companies to reassess how they are run in the face of the increasingly global scope and intensity of competition. Competitive pressures emanate from many sources. DTI recently identified those in **Table 1** which span forces which are economic, demographic, environmental, the role of technology, and the changing interface with suppliers. But above all, business must now respond to and satisfy greater customer demands.

In the face of such pressures, change is happening at an ever increasing rate. Technology, particularly information technology, is revolutionising whole industries and individual companies. Product life cycles are becoming shorter, driven by competition and technology. These changes impinge across the whole spectrum of a company's operations - i.e. marketing, designing and developing new products and services, purchasing and supply, production and quality. Changes may be viewed as either threats or opportunities to a company's survival and profitability. Management gurus encourage the latter view and various management strategies have been developed in recent years to respond.

Generic strategies include **low cost differentiation, niche positioning, diversification** or "**core competence**". Today, the last strategy, defined as focusing on the hard-to-imitate skills and business processes which enable a company to do things better than its competitors, is increasingly common. By thinking of the company as a set of evolving competencies, the company can remain flexible and adapt to take advantage of new opportunities generated by the rapidly evolving business environment.

However having identified a strategy, it has to be implemented and supported by an infrastructure which cuts across the whole company to provide speed, flexibility, quality and innovation. To achieve this, compa-



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Table 1 PRESSURES FOR CHANGE IN MANUFACTURING

ECONOMIC	Highly volatile with strong global; competition from Pacific Rim, new markets in E. Europe etc.
DEMOGRAPHIC	Decline in number of school leavers, ageing population, smaller households, flexible work.
ENVIRONMENT /HEALTH	Increasing concern for the environment, more regulations, desire for healthier foods and environmentally friendly products - can be a source of product differentiation and competitive advantage.
TECHNOLOGY	Increasingly used to bring competitive advantage, use of IT and new materials increasingly important.
SUPPLIERS	Purchasing function more important, external sourcing, alliances and partnerships.

nies are employing a whole range of organisational techniques and new manufacturing approaches.

THE MAIN APPROACHES

Business Process Re-engineering (BPR)

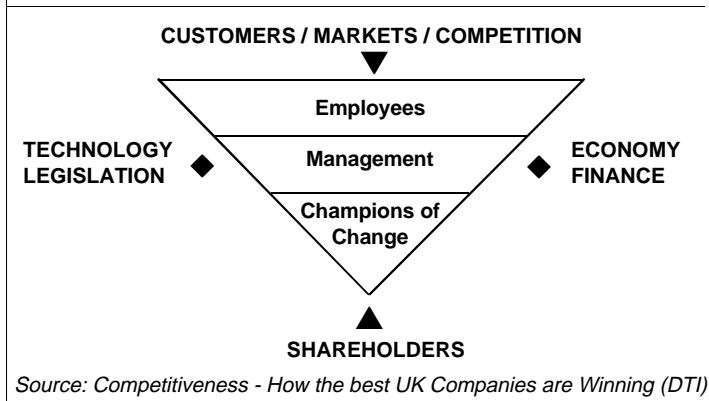
The concept of BPR was developed in 1990 by the American James Champney and Michael Hammer; the intention is to boost competitiveness through simpler, leaner and more productive processes. Key ideas are putting customers first, using team-working, empowering workers, rewarding performance and removing barriers between divisions within companies.

In essence, BPR organises the company and flow of work around a business process (not the functional tasks which make up the process), with the aim of reducing the time required to deliver service and/or product to the customer, eliminating unnecessary steps and activities, optimising the use of IT, focusing on what the (internal or external) customer wants, and delegating responsibility for the work to those doing it.

Changes when a company re-engineers include:

- Functional departments change to process teams.
- Jobs - from simple tasks to multidimensional work.
- People's roles - from controlled to devolved decision-making (**employee empowerment**),
- Performance measures and compensation shift - from activity to results.
- Values change - from protective to productive.
- Managers and executives change - from supervisors and scorekeepers to coaches and leaders.
- Organisational structures change - from hierarchical to flat - hence the related terms **de-layering** (e.g. **Figure 1**) and the associated '**downsizing**'.

Figure 1 INVERTING THE ORGANISATIONAL PYRAMID



BPR has been extensively applied - surveys report that 69% of American companies and 75% of European companies are reengineering and more than half the rest are thinking about it. As a business tool, it is applicable to any industry or function, although BPR is considered particularly applicable to labour and/or capital intensive industries. Examples of BPR are given in the **Box opposite**.

BPR has major effects on companies - particularly apparent in terms of job losses - typical losses in US reengineering projects were 336 and in Europe 760. At least in the short term, the reduction in management layers has obvious benefits for the profitability of the company. However, the number of BPR 'failures' is very high - fewer than half the firms who aimed for increases in market share actually achieved this goal, and some estimates put failures as high as 85%, with the most typical reasons including employee resistance, ineffective organisation structure and management process, inadequately defined new job skills and requirements, inappropriate performance measures and rewards.

A key mistake appears to be taking a too mechanistic approach, resulting in a lack of communication and the failure to win over the people involved, perhaps influenced by the aggressive terminology¹. There is also the possibility that companies which claim to be engaged in reengineering are using the term as an euphemism for restructuring and shedding jobs in general.

Total quality management (TQM)

TQM is probably the most influential management theory of our time. It was introduced and widely adopted first in Japan and its introduction in 1951 is credited with the incredible improvement in the quality of Japanese products leading to their competing in the world markets. DTI describes TQM as managing a business so that every job and process is carried out correctly first time and every time. Other key ideas are "prevention not detection" and "elimination of waste". Achieving the required level of quality should involve everyone in

1. The original pioneering paper is titled, 'Reengineering Work: Don't Automate, Obliterate' by Michael Hammer, 1990.

EXAMPLES OF BPR

- The Ford Motor Company was concerned at the cost of its accounts payable department. The number of staff employed was 500, in contrast to Mazda where 5 people performed the same function! The difference could not be accounted for by low interest rates and company songs! BPR was applied in an attempt to achieve a similar level of efficiency. A radically new approach was identified and adopted the introduction of "invoice-less processing". Implementation resulted in a reduction in staff of 75% and material control is now simpler and more accurate.
- The Glasgow-based manufacturing company Barr and Stroud is a supplier of Royal Navy periscopes. After a ten year BPR programme, the following benefits were achieved: inventory costs reduced by £15M; lead times were halved; delivery reliability improved nine-fold; productivity went up 30%; sales per employee went up 300%; management layers down from 9 to 4. A 1993 loss of £5.4m turned into a £2.6m profit in 1994, despite falling defence sales.

the company working to satisfy ("delighting") the customer continually, whether external or internal. As indicated above, one of the key features of TQM is consistency, and achieving consistent quality, whether it be a product or service, requires good design, consistent methods or procedures, consistent equipment, consistent materials and clear instructions with all these features being consistently monitored and adjusted.

DTI identifies several key ingredients of TQM; these being commitment from the top "team" in the organisation, quality assurance systems to meet a recognised standard such as BS 5750/ISO 9000, the involvement of everybody in the organisation, team work and continuous improvement. Specific components of TQM are **system audits** to ensure that the employees involved are operating according to the documented system, while a **system review** checks that the system still meets the requirements. TQM involves the use of **quality improvement techniques** and **Statistical Process Control (SPC)** to provide objective means of controlling quality in any transformation process (in order to measure and reduce variability). Quality is a continually moving target: when low defect rates become the norm in an industry, the target changes to achieving top quality at a lower cost.

Improving quality does impact the bottom line. One common estimate is that 15-30% of sales are wasted in unnecessary costs associated with poor standards. One case study at Motorola estimates that the implementation of TQM added \$3.2 billion to the bottom line between 1987 and 1992.

The Institute of Management commissioned a study on TQM in 1993 in which 71% of 880 British managers surveyed said that their companies had or were implementing some form of TQM. The same study showed however that TQM was not for most organisations delivering all of the promised results. Less than half the

organisations had achieved a formal quality standard, while around a quarter were still aiming for one. Only 8% of managers saw their organisation's drive to quality as very successful; however, the majority did claim a moderate degree of success or were neutral. Although fewer than half the managers claimed an improvement in sales or profitability, a majority reported improvements in less tangible benefits such as team work and morale.

In many aspects, TQM and BPR are very similar. They have some common fundamentals - e.g. a focus on improving the supplier-customer relationship at all levels and the delegation of responsibility. The same set of tools and techniques are used (e.g. process modelling, work-flow analysis, failure mode analysis) to underpin and support change. However, in TQM each person or activity is treated as a part of a line. Error and waste is removed at each stage, thus benefiting the customer at the end of the line. In BPR, the whole structure of the process is reviewed to question its purpose and design, and to identify efficiency savings. TQM emphasises gradual and continuous improvement; BPR calls for radical and once and for all changes.

One of the most important features of TQM is employee involvement, fostered by effective communication and eliminating fear. However, BPR more often involves loss of jobs, therefore it can generate fear and resistance. Effective employee communication and executive leadership are critical in such a process. Research suggests that during the '90s, interest in TQM has been waning since it does not blend well with newer enthusiasms for more radical mechanisms for change such as BPR, downsizing or restructuring.

CHANGES IN MANUFACTURING

BPR and TQM employ organisational change to deliver goods and services better, faster and cheaper. As part of the preparation process, companies may need to employ **Best Practice Benchmarking** (BPB) - this recognises that a company's competitiveness depends not on performing better than it did in the previous year but more on measuring its performance against that of world class companies and emulating best practice².

In order to improve performance, companies may use **Manufacturing Resource Planning** - an integrated system which is concerned with how best to utilise material, equipment and people resources in order to meet the required customer demand and minimise cost and risk. Efficiency gains may result from **outsourcing** - farming out discrete areas of production to subcontractors. Advantages are that firms can cut costs, control capital spending and focus on core business³.

2. BPB is being encouraged in Europe through the launch of the European Foundation for Quality Management in 1992 and the UK Quality Award (run by the British Quality Foundation) in 1994.

World-class manufacturing involves operating at standards equal to the best in the World and market requirements are leading to shorter product lives as they are continuously updated and improved. This requires new approaches to the process of manufacturing.

Flexible manufacturing systems (FMS, also called **agile manufacturing**) replace old mass production technology where a single product could only be produced by a dedicated machine. FMS has succeeded mass production because the life of the product is shorter than that of the manufacturing system. Products which are more customised for different markets (**mass customisation**) also create a demand for FMS. The ability of a manufacturing process to produce economically a number of different parts, with short production runs, is therefore critical to continued competitiveness.

In parallel with FMS, **simultaneous engineering** (SE), through multi-function teams or task forces, ensures that research, design, development, manufacturing, purchasing and supply and marketing all work in parallel from concept through to the final launch of the product - giving shorter lead-times with a greater inherent quality. The DTI recommends that, in order to compete with the Japanese, an initial target for a business should be to cut the overall time to bring a new product to market by at least 25% to 35%. Another technique, **Quality Function Deployment** (QFD) is considered to be an essential component of and starting block for SE; QFD makes sure that the product meets exactly the customer's requirements; it involves much initial market research and ensures that the design is specified correctly and can be obtained in production.

Another modern manufacturing technique is **Just in Time** (JIT) which seeks to avoid tying up capital in warehouses as stock. Orders trigger production rather than relying on a warehouse to store products ahead of sale. Suppliers are organised to deliver smaller batches of supplies precisely when they are needed. JIT can also be viewed as operating "without a safety net" which allows any weaknesses in the system to be exposed and addressed immediately. On the other hand, it introduces vulnerabilities - following the recent Japanese earthquakes, some car companies had to halt production because there were no stocks on which to draw when some components could not be manufactured.

Most JIT systems have been developed by the car industry, and in the UK, JIT has been utilised by the large retailers. In Europe as a whole, JIT is not widely implemented (a recent survey of European businesses

3. Subcontracting accounted for a third of Japanese firms' total manufacturing costs in 1991 (up from under 20% in the 1960s). However, outsourcing works less well in Western companies, with many experiencing increased costs, decreased technological competitiveness, a loss of control over process technology and faltering product quality. This is attributed to the fact that most western firms use subcontractors in order to cut overheads (and very often jobs) and not as in Japan, to improve quality and efficiency.

found only 9 genuine JIT operations), and in many cases, stocks had merely been shifted to the suppliers rather than being removed from the system altogether⁴.

ISSUES

Fads and Fashions in Management Theory

There are those who would suggest that the development of new theories is just an industry in itself. Each new theory creates jobs for those who lecture to management and for management consultants to implement their theories within companies. The basic similarities between the different techniques suggests that they may not be as innovative as they seem. Nevertheless, most recognise a need for companies to develop continuously the fundamentals: employee involvement, customer orientation, reduced cycle times and reduced costs. This requires companies to invest in their management and processes just as they invest in new plant and equipment or research and development, and those companies which do not orient themselves along those lines may lose market share, stagnate and fail. The fundamental competitive pressures and the need for change are thus real enough even if the jargon is not.

Nevertheless, the use of jargon creates a sense of 'fad and fashion' which can lead to techniques being applied without sufficient analysis of whether they are needed and, if so, which should be deployed. Inappropriate selection of such techniques may well be an important factor behind the high failure/partial success rates of BPR and other approaches.

Another consequence of too many jumping unthinking onto this year's 'bandwagon' is that changes can be cyclical and what was undone last year has to be restored the next! For instance, several techniques depend on the removal of layers of management (de-layering) to give a less hierarchical or flatter business. It might be assumed that there would be easier and faster communication with a greater emphasis on the use of information technology, face to face communication and less on paper. However, a study commissioned by the Institute of Management in 1993 found that while a flatter structure appeared to lead to a more open management style with more information flowing downwards, it was also found that 'top' management were much more likely to have a rosy picture of the effectiveness of communications than managers lower down who were concerned about a reduction in their ability to take decisions. It was also found that long-term objectives were still not being communicated downwards. The latest theorists are now rediscovering the merits of middle management, whose removal has caused a loss of valuable knowledge. Middle managers are now seen

as necessary 'go betweens' between top managers who decide company strategy (but know little about what is happening at the 'coal-face') and the front-line workers who know their own jobs back to front (but not how they fit into the overall strategy). Recent findings also suggest that US companies which give middle managers a say in forming strategy perform better. Inevitably, new buzzwords now describe the role of managers in "strategic framing", acting as "facilitators" and "boundary spanners"!

Research

The above trends underline the importance of research into the real roots of success and failure in management systems. Research needs to inform the exploding number of MBA courses in the UK, since there are some 104 business schools within the universities and higher education colleges, and many others in further education and independent sectors. Full-time student numbers in business and finance increased by 65% to 124,000 between 1988 and 1992, yet only a third of MBA courses are accredited by the Association of MBAs (AMBA). In addition, sound research is also needed to inform the DTI's many programmes aimed at helping UK business compete successfully on a world scale - including Business Links, Managing in the '90s programme, and the work of the Innovation Unit, under the general thrust of the recent White Papers on Competitiveness.

In this context, the Economic and Social Research Council (ESRC) set up a Commission on Management Research (CMR) in 1993 to review the quality and relevance of management research in the UK. Overall, the quality of research in business and management is generally poorer than in social science as a whole with only 13% of the 84 university-based schools top-rated (grades 4-5). The CMR saw much management research as lacking rigour, and relying too much on case studies with inadequate emphasis on developing long-term and cross-sectional data, a situation aggravated by the rapid expansion in MBA teaching, so that many business schools have a weak commitment to research.

The CMR recommended a Management Development Research Initiative be set up to encourage new centres of excellence, as well as sustaining current ones. An independent Management Forum was also recommended to debate research priorities. In April 1994, ESRC announced two new initiatives - a scheme for Innovation Research Fellowships and a Management Research Forum as suggested by the Commission. Other recent activities include:

- reporting research via the **Innovation Agenda**;
- creating a new **Innovation Research Programme**;
- setting up (with the EPSRC) a **Business Process Resource Centre**;
- a **Centre for Business Research** at Cambridge.

4. The problems were put down to a lack of co-operation between the supplier and supplied; this contrasts with the Japanese system where the relationship between the two is very close.