

Management Summary

BUTLER COX
FOUNDATION

The Role of Information Technology
in Transforming the Business



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in Transforming the Business**

**Management Summary
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Management Summary

The Role of Information Technology in Transforming the Business

Foundation Report 79, 'The Role of Information Technology in Transforming the Business', was published in January 1991. Its purpose was to explain the concepts underlying transformation, and to identify the implications for business and systems managers. This document summarises the main management messages arising from our research. The full report is available only to members of the Butler Cox Foundation.

If there is one word that captures the threat and the promise of the 1990s, it is 'transformation'. It seems as if everything is being transformed, from economies in eastern Europe to corporations in North America. The word is now firmly established in the management literature, and the 'transformed organisation' is frequently portrayed as the ideal for every company, since it enjoys the benefits of reduced costs, increased customer responsiveness, more satisfied staff, and sustainable competitive advantage.

Academics claim that information technology is a prime driver of business transformation. This claim led the Butler Cox Foundation to research the topic, to identify the real characteristics and benefits of transformation, and to assess the role of information systems in bringing it about.

Business transformation means redesigning business processes

We found that business transformation has many characteristics. Top managers need a clear vision of the organisation they are aspiring to create. Managers are concerned as much with external matters, such as managing relationships with their trading partners and reinforcing their competitive position, as they are with conventional internal matters, such as maximising the return on fixed assets. Front-line staff may be given greater responsibility and discretion, backed-up by access to information and technology. This means that they can create and take advantage of opportunities without always having to refer to a supervisor or a head-office manager.

Our research showed, however, that the most important characteristic of business transformation is a determination to identify and redesign the business processes by which value is created and conveyed to customers. Consequently, our research focused on the relationship between information systems and the management and redesign of business processes. In the context of this report, the term 'transformation' therefore has a specific meaning. A company is transformed when it succeeds in completing

the change from a functional organisation structure to one based on its business processes, right across the business.

Business processes are hidden behind traditional functional management

Most managers are unfamiliar with the idea of business processes, because such processes are usually hidden behind the functional organisation structure and the information systems that support it. Running through every business, however, linking individuals and departments, and cutting across the functional boundaries, are the processes that determine what the business is and how it works. Too often, these vital processes are taken for granted — invisible and immutable, inherited down the generations of managers, and perceived as the natural way of doing business.

A business process is a set of work activities, arranged logically to realise a business objective. Conceptually, every business has two business processes — an outward process concerned with producing goods or services and delivering them to customers, and an inward process concerned with collecting payment from the customers and distributing it to workers, suppliers, and shareholders. In practice, businesses have many processes — for example, product development, product delivery, customer service, and the collection and distribution of payments.

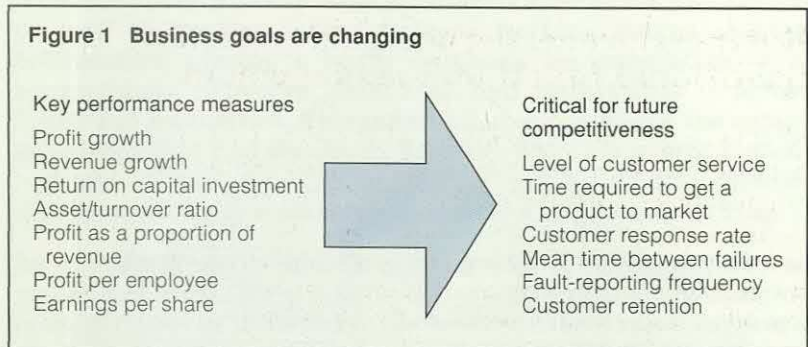
Business processes have two important characteristics. They have customers (either internal or external to the firm) who are the recipients of the outcome of the process, and they cross organisational boundaries — between departments within functions, between functions, or even between separate companies. This implies that process working involves people from different functions cooperating in cross-functional teams to achieve the required outcome.

A good example of a firm that has redesigned its business processes is First Wachovia, a retail bank in the United States. It has swept away its conventional departmental structure, and re-organised itself around the customer-service process. Each customer now has a personal banker who handles current-account transactions, approves loans, checks if repayments are late, decides on appropriate action if they are, and above all, sells new bank services. The customer-oriented organisation provides a powerful tool for generating profit. First Wachovia has consistently generated a return on equity well above that of most US banks.

Functional management is no longer adequate

Traditional, functional management has been common since the principles of scientific management were laid down by Frederick Taylor, and has been the cornerstone supporting the classic goals of efficiency, control, and growth. This approach is no longer adequate in today's more turbulent times. Growth in revenue, profit, and earnings per share are still important performance measures, but they are not sufficient to ensure competitiveness in tomorrow's

markets (see Figure 1). A new approach, based on business processes, is now required.



Thinking about business processes does not come easily to many managers, but there are already examples of companies that have redesigned their processes. Under competitive pressure to improve quality and reduce costs and lead times, an increasing number of manufacturing companies are examining their production processes with the aim of re-engineering their products and the methods by which they are designed and manufactured.

The same competitive pressure is now being felt in all business sectors. The functional organisation structure is inflexible, and is therefore unsuited to the rapidly changing requirements of today's business environment. Commercial and administrative procedures must be subjected to the same degree of analysis and scrutiny as is already applied widely in the production of cars, cameras, and computers.

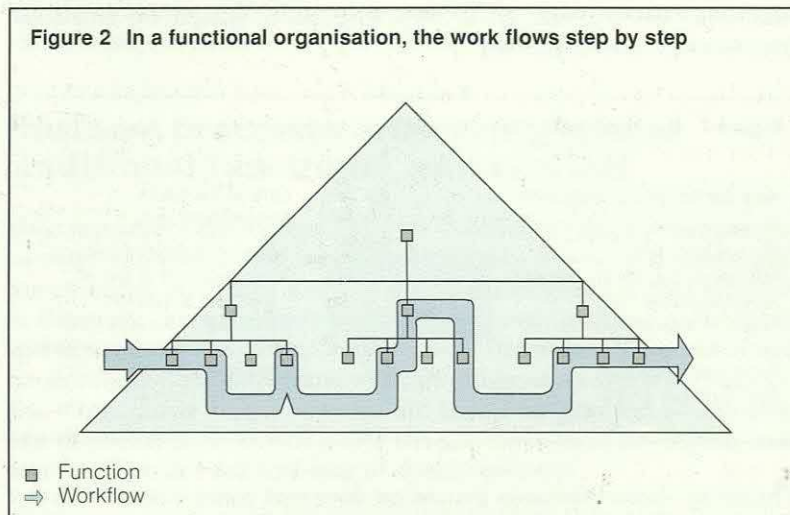
Process management provides significant benefits

The full report contains four detailed case histories of companies that have embarked on process management — Ford, IBM, Mutual Benefit Life, and Dow Europe. It also briefly describes 10 further examples of process redesign, to illustrate the wide diversity of businesses applying the principles. Taken together, these examples illustrate the enormous benefits that may be gained from process working.

The first benefit is cost reduction, achieved by the elimination of unnecessary work, and by simplifying the workflow. Instead of work passing in batches from specialist to specialist, with exceptions being referred to supervisors for more expert attention (illustrated overleaf in Figure 2), the work stays with a single individual or team throughout the process. The team is given the authority to take action, within agreed limits of responsibility, and has the information and the tools required to exercise this authority. In many cases, productivity has more than doubled.

The second benefit is improved responsiveness to customers. Service quality and timeliness are improved because front-line staff are empowered to act, and do not have to ask for information or permission from a supervisor, or refer a query to another department. This means that a customer with a query is no longer

Figure 2 In a functional organisation, the work flows step by step



shunted from department to department, having to explain his requirement every time. Flexibility and adaptability are also improved because front-line staff are dealing with all of the customer's concerns, rather than merely applying strict rules within narrow limits.

The third benefit is improved job satisfaction for the staff. This arises partly because they are much more likely to share the customer's satisfaction in a job well done, and partly because they are able to monitor and control their own work. Quality and service become real personal issues, not mere talking points. Staff are more challenged, and if they are able to cope with their widened responsibilities, they become more fulfilled.

Perhaps most important, the various characteristics and benefits of process working lead to the creation of a learning, adapting organisation, which is focused on the customer. This final benefit is not easily attained, but once achieved, it becomes embedded in the company culture. Hence, it is very hard to copy and so provides the basis for sustainable competitive advantage.

Process management is not easy to introduce

Achieving the benefits of process working is not easy, as several businesses have discovered to their cost. It changes the roles of top and middle managers, and of staff, and is therefore likely to be resisted by all three groups.

Process working implies a 'flatter' organisation structure, which means that the traditional promotion ladder is greatly shortened. Instead, staff can progress by carrying out a more challenging task more effectively, and by continually learning new skills that give greater personal job satisfaction. Process working therefore changes the way in which businesses must motivate their staff.

Process working also calls for staff with different skills and a different attitude to their work. Instead of a deep functional specialism, staff in a process team now need a portfolio of skills,

together with a greater awareness of customer needs and an ability to work as part of a team.

A further problem concerns the provision of appropriate information to staff in process teams. Process working means sharing information, placing a heavy emphasis on integration — of workstations, networks, databases, and applications — across functional boundaries. This information also replaces the expert knowledge that had previously been the jealously guarded stock-in-trade of the experienced middle manager. The middle-management layer is therefore threatened by process working.

As a consequence, middle management's powerful position as gatekeeper in the flow of information up and down the organisation is undermined by technology. The old supervisory role disappears, as staff are given greater responsibility and discretion. Fewer middle managers will therefore be needed, and their new role becomes that of educator, coach, and facilitator.

Process working also has an impact on top management. Reducing the number of middle managers and widening top managers' spans of control brings them closer to the action. This should give them a clearer view of the sharp end of the business, and heighten their responsibility for ensuring that strategy and structure are clearly in line with market requirements. They must, however, resist the temptation to get involved and pre-empt the actions of their front-line staff. Instead, they must learn to use the information systems that are an integral component of process working to measure, communicate, coordinate, and control.

The move to process working must be carefully managed

Our research shows clearly that process management represents a radical change from conventional management thinking. However, there are great benefits to be gained from the redesign of processes, and equally, great difficulties to be overcome. The main responsibility for recognising the potential of process working rests with general business managers outside the systems department. Nonetheless, systems managers have an important part to play in providing the information and technology support for the redesigned processes.

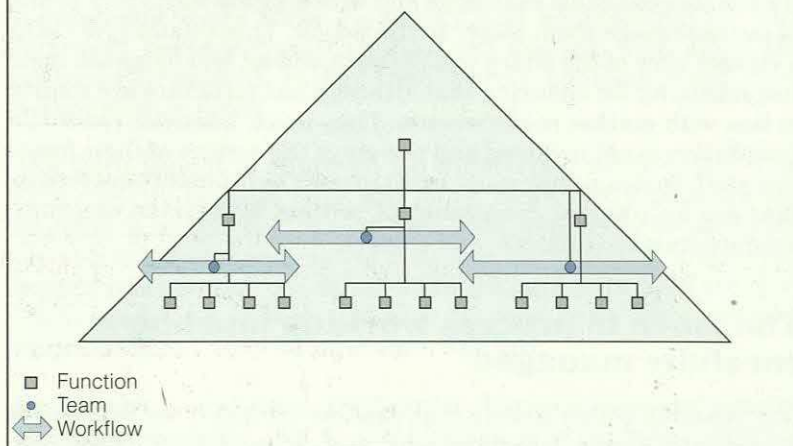
The businesses we examined placed great emphasis on the creation of a vision of how things might be in a transformed organisation. This vision needs to come from the top, for it challenges many widely and deeply held beliefs about culture and management practice. Only if top managers communicate and support their vision will it outlast the company's cynics. Such a vision is frequently created under the pressure of competition.

Top management must also recognise and manage the problems that arise in moving from a functional organisation to one based on business processes. The weaknesses of the functional structure, but also its great strengths, are its inflexibility and stability. As soon as these are undermined by the adoption of process working in some part of the organisation, the whole organisation becomes unstable. It is the responsibility of top management to manage this instability.

Process management requires a different organisational structure

The ideal structure is a network of small entrepreneurial teams, but this is unrealistic for all but small, very specialised companies. A second option is an arrangement of teams coordinated by a minimal management hierarchy, which manages the overall strategy and structure of the firm, and coordinates the individual teams. In our view, however, the most likely option will be a hybrid of functional and network structures (see Figure 3). Cross-functional process teams will provide customer responsiveness and the virtues of smallness that many large companies are searching for. A simplified hierarchy, with less functional emphasis, will provide the strategic direction and the mechanism through which team goals are set and performance is measured.

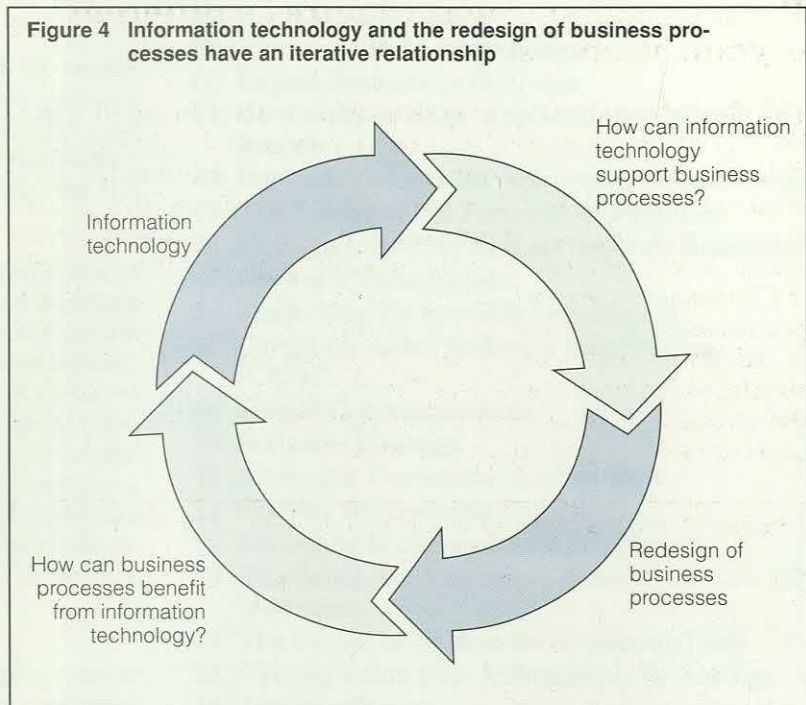
Figure 3 The hybrid organisation combines process working with the existing functional structure



The systems function has an important role to play

Information technology, and the better use of information, are fundamental to process working and redesign. The constraints of time and place have contributed to the tacit assumption that business processes are fixed characteristics of any business and cannot be improved. Information technology removes these constraints. Information is the essential ingredient in empowering staff and providing them with the ability to monitor their own performance. Systems staff therefore have a crucial role to play in the redesign of business processes.

Their first task is to educate line management about the new opportunities presented by information technology. This is particularly relevant when top management is searching for a new vision of the transformed business. As Figure 4 shows, there is an iterative relationship between the impact of information technology and the redesign of business processes. Information technology creates new possibilities for process working, and process redesign calls for new kinds of support from information technology.



The second task is to ensure that process workers have access to systems that provide them with information from all the functions spanned by a business process. This implies the need for systems integration (and even for links with customers' and suppliers' computer systems) that is often very hard to achieve in practice.

The third task is to ensure that a sound technical infrastructure exists, which will facilitate the integration of applications, will enable information to be communicated within and beyond the boundaries of the business, and will allow appropriate new technologies to be introduced as they become available. An appropriate technical infrastructure will also enable the systems department to respond rapidly to the changing organisational structure that will result from a move to process working.

To date, information technology has played a supportive role in business — at best, enabling new applications to be developed that offer a brief competitive advantage, and at worst, being regarded as a necessary evil. Process management heralds a new era for information technology, one in which it has an essential role to play. Process management may, indeed, be the key that unlocks the real potential of information technology.

The Butler Cox Foundation

The Butler Cox Foundation is a service for senior managers responsible for information management in major enterprises. It provides insight and guidance to help them to manage information systems and technology more effectively for the benefit of their organisations.

The Foundation carries out a programme of syndicated research that focuses on the business implications of information systems, and on the management of the information systems function, rather than on the technology itself. It distributes a range of publications to its members that includes research reports, management summaries, directors' briefings, and position papers. It also arranges events at which members can meet and exchange views, such as conferences, management briefings, research reviews, study tours, and specialist forums.

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The Foundation is the world's leading programme of its type. The majority of subscribers are large organisations seeking to exploit to the full the most recent developments in information technology. The membership is international, with more than 450 organisations from over 20 countries, drawn from all sectors of commerce, industry, and government. This gives the Foundation a unique capability to identify and communicate 'best practice' between industry sectors, between countries, and between information technology suppliers and users.

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- The publications are terse, thought-provoking, informative, and easy to read. They deliver a lot of messages in a minimum of precious reading time.
- The events combine access to the world's leading thinkers and practitioners with the opportunity to meet and exchange views with professional counterparts from different industries and countries.
- The Foundation represents a network of systems practitioners, with the power to connect individuals with common concerns.

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