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工商管理精要系列·影印版

# 全面质量管理

TOTAL QUALITY  
MANAGEMENT

约翰·班克 著

John Bank



中国人民大学出版社



Prentice Hall 出版公司

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# 《工商管理精要系列·影印版》

## 出版说明

《工商管理精要系列·影印版》是中国人民大学出版社和西蒙与舒斯特国际出版公司继《工商管理经典译丛》之后，共同合作出版的一套大型工商管理精品影印丛书。

本丛书由欧洲著名管理学院和管理咨询公司的教授和专家撰写，它将 90 年代以来国际上工商管理各专业的最新研究成果，分门别类加以精练浓缩，由享誉世界的最大教育图书出版商 Prentice Hall 出版公司出版。每一本书都给出了该专业学生应掌握的理论框架和知识信息，并对该专业的核心问题和关键理论作了全面而精当的阐述。本丛书虽然篇幅不长，但内容充实，信息量大，语言精练，易于操作且系统性强。因此，自 90 年代初陆续出版以来，受到欧洲、北美及世界各地管理教育界和工商企业界读者的普遍欢迎，累计发行量已达数百万册，是当今国际工商管理方面最优秀的精品图书之一。

这套影印版的出版发行，旨在推动我国工商管理教育和 MBA 事业的发展，为广大师生和工商企业界读者，提供一套原汁原味反映国外管理科学研究成果的浓缩精品图书。有助于读者尽快提高专业外语水平，扩大知识面，掌握工商管理各专业的核心理论和管理技巧。

本丛书可作为管理院校的专业外语教材和各类企业的培训教材，对于那些接受短期培训的企业管理者、MBA 学生，以及想迅

速了解工商管理各专业核心领域的师生来说，本丛书更是极具价值的藏书和参考资料。

为了能及时反映国际上工商管理的研究成果，中国人民大学出版社今后将与 Prentice Hall 出版公司同步出版本丛书的其他最新内容并更新版本，使中国读者能借助本丛书，跟踪了解国际管理科学发展的最新动态。

1997 年 8 月

# Preface

The relaunch of America's space shuttle programme in October 1988 required over 400 design changes and replacement of critical components in the shuttle fleet costing \$2.4 billion. In the nearly three years it took to recover from the spectacular explosion of Challenger, NASA was completely reorganized.

Events leading up to 'the major malfunction' of Challenger provide the raw material of a case study on how *not* to manage a complex technological project. The prodigious cost of poor quality engineering and poor processes in the space shuttle programme – including the loss of seven lives – argue for the need of total quality management in NASA.

Poor quality processes in its Bhopal pesticide plant cost the Union Carbide Corporation £420 million in compensation claims in March 1989. More than 3,400 people have died since a cloud of deadly methyl isocyanate gas leaked out of a storage tank at the Bhopal plant and floated over a city of 672,000 population in the early hours of 3 December 1984. It was the worst industrial accident in history with over 200,000 people hurt and 15,000–20,000 suffering lasting injuries. The pesticide factory simply did not have the quality safety processes that exist in a similar pesticide plant in Germany (owned by Bayer) and one in America (Union Carbide's own) which include towers that rain down foam to neutralize escaping gases. The three men with garden hoses at Bhopal – two of whom wisely ran away – were a ludicrous substitute for a fail-safe system.

The space shuttle explosion, the tragedy at Bhopal, are not accidents that result from human error. They are part of seriously flawed business processes where quality is ignored. They are part of

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the unacceptable high cost of poor quality which companies and their customers are increasingly refusing to pay.

Who is accountable for disregarding quality procedures? There was public outrage in Britain over the sinking of the British ferry *Herald of Free Enterprise* after sailing from Zeebrugge on 6 March 1987 with open bow doors. Anger over the loss of 193 lives was reflected by a court case in which former employees of P&O European Ferries were charged with manslaughter at the Old Bailey in October 1990. As a result of the case, although those charged were acquitted, corporate manslaughter is legally admissible in an English court. The fire on Occidental's Piper Alpha oil platform in the North Sea which claimed 167 lives on 6 July 1988 showed a similar disregard for life when submitted to the white-hot scrutiny of public inquiry and legal action. Earlier there was the tragedy of the drug thalidomide. These events again reveal an alarming lack of proper quality procedures. But it should not take a national disaster to alert managers to bad practices and procedures. Engineers or shopfloor workers who discover flawed design should be encouraged to 'blow the whistle' by their company's own commitment to continuous improvement and to quality processes, rather than wait to play dramatic parts as witnesses in an inquiry.

An insistence on total quality as the fundamental business principle in organizations everywhere has the force of an unstoppable idea whose time has come. Managers are grappling with total quality now to ensure a future for themselves and their companies. Anyone who ignores quality today does so at great jeopardy to his or her business.

In the run up to the new millennium a manager has to focus on the right priorities. The manager should lead the company with clear vision to fulfil its mission, unleashing the creative powers of all employees in teams to meet competitive challenges from a global market-place. Coping with change and uncertainty the manager needs an overall framework within which to work which will provide practical norms while capturing the imagination of managers and workers alike. The manager needs to create a corporate culture where quality products and services, business processes and people are central. In short, the manager needs a working understanding of total quality management (TQM).

Rooted in the research and teachings of American quality pioneers W. Edwards Deming and Joseph M. Juran, and the home grown management synthesis of Karou Ishikawa, and many others, the TQM message empowered Japanese managers and gave them the quality vehicle with which they established global trade supremacy.

The quality gurus told Japanese managers and politicians what they were gradually discovering for themselves, that the only way they could survive as an island nation with virtually no natural resources, was to make quality products and service the national imperative. And this they did, producing steel, ships, motorbikes, cars, medical equipment, transistor radios, stereo components, television sets, video recorders, cameras, camcorders, calculators, computers, office machinery, musical instruments, hand tools, machine tools, radial tyres, electric motors, food processors, microwave ovens, sports equipment, heavy machinery, computer games, industrial robots, electron microscopes and microcircuits – where the Japanese measure defects in ‘parts per million’ rather than the traditional Western percentages. In all these sectors the Japanese sell their products on quality as well as price. They perfected the idea of continuous improvement. And the West is still reeling from the results. In 1985 the US foreign trade deficit reached a record \$148.5 billion of which \$49.7 billion – a third – applied to trade with Japan.

During the last decade, however, the quality thrust has come back to America and Europe bringing great benefits in its wake. The benefits of TQM programmes include greater competitive advantage and massive financial savings to do with the ‘cost of quality’ (the total business cost in achieving quality) which is exhibited in the costs of prevention, appraisal, internal failure, external failure, exceeding customer requirements and lost opportunities.

Although first taken advantage of in the industrial sector, total quality management has been found to be just as effective in the service industry – in banking, insurance, hotels and restaurants, travel and holidays, health and the administration of public affairs. In fact, whenever an organization has a sequence of activities directed towards a defined end result it has business processes which can be analysed and improved by TQM techniques.

In addition to marketing advantages and financial savings, TQM programmes increase customer satisfaction producing a tidal wave of goodwill and additional business. They encourage the production of new products and services. They help develop a more effective management focused on the right priorities. By empowering people, these TQM programmes improve company morale and encourage genuine involvement in decision making. They ultimately enhance a company’s image and, in so far as is possible in an uncertain world, attempt to assure a company’s viability.

UK companies are following the lead of Japanese and American firms taking on TQM programmes to capture these benefits. Getting it right first time, zero defects, prevention, the internal customer,



competitive benchmarking, 'cost of quality', synergy in team work, self-management, self-inspection, are key words and phrases in the move towards total quality. Behind the words and concepts are techniques and actions. Instead of focusing on products and services in isolation, they are looked at in their integral connection with business processes and the people who do the work. New systems are created.

The focal point of it all is the customer. In fact, quality is defined as fully satisfying agreed customer requirements at the lowest internal price. The rewards are great for those companies who meet customer requirements because they win repeat business. Rob Walker, director of quality and management systems for Rank Xerox UK, laments that in 1990 customers discontinued using 5,500 Xerox machines out of approximately 140,000 installed. These lost customers cost Rank Xerox \$8.5 million in 1990 and will cost about \$30 million over three years. By 1993, Rank Xerox plans to reduce dissatisfaction among its customers from its current level of 7 per cent to zero.<sup>1</sup>

This book presents the essence of total quality starting in Chapter 1 with a focus on the customer. Chapter 2 analyses total quality management core concepts, which are: profiting from quality, right first time, zero defects, a rejection of acceptable quality levels (AQLs), cost of quality, competitive benchmarking, involving everyone, synergy in team work, ownership, self-management, reward and recognition, managers as role models and the quality delivery process. What major writers have said about total quality management in the past is the subject of Chapter 3. We look at the work of the Americans, Deming, Juran, Crosby and Conway, and at the Japanese 'Father of Quality Circles' Professor Karou Ishikawa.

Cutting the cost of quality is the subject of Chapter 4 in which each of the traditional costs of quality – prevention, appraisal, internal failure, external failure, exceeding requirements and lost opportunities – is analysed and illustrated by relevant examples, including a more detailed look at the Challenger accident. On average firms waste 20–30 per cent of their revenue or turnover on 'cost of quality' issues. Halving the cost of quality (over two years or so) could double their profits.

Case studies in Chapter 5 show TQM programmes at British Airways, IBM, Xerox, Paul Revere Insurance Group and the Royal Mail. These programmes illustrate the key concepts of TQM in real business situations. Here we also look at the challenge of changing

company culture to the more positive total quality management culture.

The tools and techniques of total quality management are summarized in Chapter 6. Finally a selective and annotated guide to further reading containing a dozen of the best books in the field is included in Chapter 7.

The potential readership of this book includes the thousands of MBA students who need to pick up ideas swiftly and run with them, and practising managers, some of whom seek out business schools to delve into new management practices, before returning to the hurly-burly game of survival. The book is intended for all those managers who know instinctively that quality must mean something *more* than just the basics outlined in BS 5750 or ISO 9000. That in no way is to belittle the importance of these two standards – the former for Britain, the latter for Europe and the world. Customers are constantly asking their suppliers for confirmation of their accreditation to BS 5750 and ISO 9000 and the requests have fuelled much quality activity. Further, the Department of Trade and Industry (DTI) through its Quality Initiative has certified a large team of consultants nationwide and will fund up to half the consultancy cost for small companies (under 500 employees) who launch quality programmes which often lead to BS 5750 or ISO 9000 accreditation. The standards are the floor of the quality building not the edifice of total quality or to use Bonington's terminology, BS 5750 is the base camp while total quality is the ascent up Everest.

Armad Feigerbaum, the head of quality at General Electric in the United States, who coined the term 'total quality management', has also stated that 'quality is a way of managing not a technical activity'.

The popularity of Sir John Harvey Jones's television series *The Trouble Shooter*, in which he gave his advice freely to managers, should not have been surprising. Management is one of the most challenging, exhilarating and risky activities in the real world. People's livelihoods and their families' well-being, personal fortunes and communities' social health, the wealth of nation states, all depend on the skill and prowess of managers who create their own luck and read the changes new technology and global marketing are pushing rapidly forward. They latch on to total quality management with its unique combination of systems, techniques and employee involvement to gain the management equivalent of Olympic gold – glittering competitive edge.

Total quality management is an approach to business which looks

critically at the products and services a company produces in relation to the processes it takes to create them and the people who do the work to make certain that outputs fully satisfy agreed customer requirements. Internal customers – anyone who receives the work of another within the company – are as important as the external customer or end user of the goods or services because they create a chain of quality which reaches out to the consumer. The approach is called 'total' because it encompasses everything the company does – all its processes, and all of its employees at every level in the company all the time. It is a restless approach since it aims at continuous improvement, the elimination of waste and costs, and the strengthening of loyal relationships with suppliers and customers. Although statistical quality control techniques, such as statistical process control (SPC) are used, the approach is more concerned with management than with specific techniques. The purpose of the book is to demystify the topic and provide the managers with a concise, clear guide to total quality management.

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## Notes

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1. *Financial Times*, 13 May 1991.

# Acknowledgements

Looking after this book has been a bit like tending a bonsai tree. It grew slowly and steadily to its gnarled, stumpy height and needed pruning, nurturing and continual care for nearly a year. None of that would have happened without the 'green fingers' of my secretary, Joan Edwards. 'Inspire me!' I would say to her and she would respond with another improved draft of a chapter on her wordprocessor. So my 'thank yous' start rather than end with her.

Richard Ayres, Doreen Dunbar and Simon Bevan of the staff of the Cranfield School of Management Library were very helpful in providing books and articles I needed for research and in running computer checks on certain facts.

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Institute at Cranfield, with whom I have developed TQM programmes and training materials. Messages from the joint effort with John Hockett surface throughout the entire book and are too intertwined with my own thoughts to identify. Chris Bonington has contributed greatly to my understanding of leadership over the years and deserves a vigorous thank you, and a special thank you to Mr Zhong-Liang Xu (MPhil) for his hard work on the index.

Over a dozen years at the Cranfield School of Management and before that at the London Business School, I have discussed ideas about quality and employee involvement with thousands of MBA, MSc and other management students. I believe in the Latin axiom 'We learn by teaching', and owe much to my students in the business schools and in boardrooms, offices and factories, for making the learning a two-way process. Their ideas are reflected here.

My partner Susan Vinnicombe has her own career as a management academic and consultant and her own books to write. She has been supportive of my effort to make the publisher's deadline and very helpful with ideas when I got stuck. She has also played the 'devil's advocate' when the attributions I made to TQM became too overarching and arrogant for her liking and cast a critical eye over the text. Anyone like us living as a dual career couple does a non-stop juggling act with work and conferences, research and writing, children and their education, sports and leisure. It's a demanding double act. The book became another fluorescent ball in the air and Susan skilfully added it to the others flying in small orbits overhead at our house in Highgate or at the university. Her brother Mike and his wife Bev Vinnicombe, proprietors of the Star Inn in Perigueux in the Dordogne, shared their rural house with us in August 1991 when I pulled the book together.

By design the book is a derivative one, attempting to sum up the entire field of total quality management, research, thinking and practice. Most of the ideas, then, are those of other writers, some of whom are legends in the quality business. In that sense, the words of Sir Isaac Newton are appropriate. We see further 'by standing on the shoulders of giants'.\*

John Bank  
London

\*Letter to Robert Hooke, 5 February 1675/6.

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# 1

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## Focus on the customer

Get thee glass eyes, and, like a scurvy politician, seem to see the things thou dost not.

Shakespeare, *King Lear*, Act IV, Scene 5.

Mr Major retorted that Labour authorities had the worst education and housing records, while Mr Kinnock said what was being offered was 'very little, very late' from a government that had spent 12 years running public services down. Mr Major retorted that 'customers don't matter to you.'<sup>1</sup>

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### The customer as king

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Total quality management is focused on the requirements of the customer. On the personal front people only go back to restaurants that fully satisfy them and they shop regularly at stores that meet their needs. They fly on airlines that provide friendly, efficient service. Industrial customers, likewise, have a set of expectations and requirements that must be met for the supplier to win repeat business. An industrial customer has the same range of emotions as a personal customer to being disappointed, cheated or short-changed. The industrial customer's response to poor service is similar – withdrawal of business and buying elsewhere.



A popular poster for display in shops, offices and factories drives this message home. It reads as follows:

Customers are:

- The most important people in any business.
- Not dependent on us. We are dependent on them.
- Not an interruption of our work. They are the purpose of it.
- Doing us a favour when they come in. We're not doing them a favour by serving them.
- A part of our business, not outsiders.
- Not just a statistic. They are flesh and blood human beings with feelings and emotions, like ourselves.
- People come to us with their needs and wants. It's our job to fill them.
- Deserving of the most courteous and attentive treatment we can give them.
- The lifeblood of this and every other business. Without them we would have to close our doors.

(Don't ever forget it!)

There are problems about defining quality as fully meeting agreed customer requirements when the awareness of customer service in British culture is so low. People are simply not conditioned to expect a high level of customer care in their private dealings and hence do not have models that transfer easily to the business or work context.

To *serve* the customer in Britain is not the expected thing. The motto of British Airways (BA) is 'we fly, to serve', but only in the last decade has BA begun to deliver consistently on the service side. Sales personnel in shops often cluster together talking among themselves totally ignoring the customer. For example, should a female customer approach them with a query about an item of clothing she would like to purchase, she is made to feel as if she were intruding. 'Excuse me', she says, 'do you have this dress in a size 10?', to which a likely reply is 'if it's not on the rack, we haven't got it'. Rarely will the sales assistant actually attend to the customer's requirements by checking computer print-outs of stock or looking at display windows, or talking about when the item might arrive on a re-order or whether another branch has it in stock.

It may be that serving the customer in this country gets confused with servitude and class barriers come up quickly. It may be that pay and other rewards are so poor in the retail trade that people are