3 PEOPLE, LEADERSHIP AND MANAGEMENT

> In this century high performance is only achieved through people, and we can only achieve what the business needs by meeting their needs.
>
> Greg Dyke, former Director General of the BBC, in a talk entitled 'Why did they cry?' reported by Duncan Brown, *People Management,* 27 October 2005

Throughout this book we tend to talk about processes – what activities are needed to get things to work right. None of this happens without people, so in this chapter we look at the people side.

LEARNING OUTCOMES

When you have completed this chapter you should be able to:

- Understand the contribution good job design can make to effective operations.
- Appraise motivational strategies.
- Understand empowerment and leadership.
- Organize groups of people to perform effectively.
- Be able to attribute roles and responsibilities.
- Be aware of the problems that can occur in joint ventures.
- Know how the 'people' side can be improved.

Remember, it is not *companies* that are easy to work for or work with, it is *the people* in those companies that make them easy to work for or with, and as was said to one of the authors at Rover some years back, 'people and politics are more than 50% of any process'.

People are even more important in the service sector as, by definition, people are often part of the process and, therefore, interfacing directly with the organization's customers. A badly trained employee can do a great deal of damage to an organization through poor liaison with the customer.

The processes involved in the management of service operations are now so big that they can certainly no longer be mastered by one person. Management is now undertaken by teams of people expert in particular areas. Also, in certain sectors, design will be done by people who do not have design as part of their job title (Dumas 1990). So just as in operations management, as the activities encompassed under the heading of 'new product development' grow, so the difficulty of its management increases.

Looking at the 'people side' can also be profitable. In the United States the retailer Sears found that a 10% increase in employee satisfaction was associated with a 2.5% increase in customer satisfaction and a 1% rise in sales (Brown and West 2006).

Managing people requires trust

It is quite likely that the growth in activities within an organization probably results in an exponential growth in the difficulty of its (people) management. All the more reason for sound, well-thought-out and documented processes, which includes satisfactory channels of formal and informal communication. Formal communication is that which takes place in organized meetings or by work processes. Informal communication is, as the name implies, that which takes place outside of the organized systems – often people just 'chatting' to each other.

Both are important and necessary in an organization and it has been shown that it is the informal communication that is often more effective. Unfortunately, informal communication cannot be controlled and this can result in unfounded rumours that can damage the smooth operation of an organization. Generally though, if an attitude of openness and trust exists in a company, informal communication can and should be encouraged. Often the negative side of informal communication flourishes when there is too much secrecy within a company and this is rooted in a lack of trust between managers and operators. One of the authors has worked in a company that kept everything a secret. This included an embargo on stating how many company cars there were. Why? How could this affect the running of the company? Generally, the more a management team tries to keep secrets the more rumours will spread. Be open and inform people of what is happening and this will help to generate trust and reduce those damaging management and worker 'them and us' attitudes.

Later in this chapter we will be describing how involving all 'internal customers' can make the daily work lives of all more enjoyable.

FAILURES IN COMMUNICATION

The Space Shuttle 'Challenger' of 1985 exploded shortly after take-off with the loss of all ten of the crew. The accident was due to an oil seal on the fuel tank which only became pliable at temperatures above freezing point. The Challenger took off early in the morning, when the air temperature was cold and the seal was not pliable.

(Continued)

Fuel leaked past the seal and exploded. The resultant enquiry highlighted the poor communication between the various parties involved, as the specification of the oil seal used was known but the information had not reached those in the command centre before NASA had committed themselves to a demanding schedule of take-offs, which did not allow time for reworking of the design.

Experts – internal and external

Always remember that any company is full of 'experts'. Some of these are employed as such and it is part of their job. With others, they may have useful knowledge that has not been harnessed and may not even be known about. Over the past ten years, many organizations have launched 'knowledgement' programmes to explore how they can best tap into this tacit knowledge in their organization. One of the present authors, as part of consultancy work, has developed lists of abilities that employees have in a 'Skills Audit' of some organizations. It is often these hobbies and outside interests that can be quite useful to an organization when it is entering an unfamiliar area.

To take the other extreme, the University of Westminster never used their 'internal experts' in the belief that any employee could have a 'vested interest' in twisting things to their advantage. A good (or rather, very bad) example of this was shown when they ignored their various experts in questionnaire design to develop a questionnaire to identify their new corporate identity. Not only was the outside consultant much more expensive than using people from inside, the final questionnaire was so laughably bad that it is still used by lecturers in several universities as an example of how not to write a questionnaire. This shows a lack of trust from top management. Always trust the workforce. As Herzberg put it rather simply, 'a worker wants to do a good job because he wants to do a good job'. He went on to say that they must also be given the right tools to be able to do a good job, the training to use those tools, the freedom to 'enrich' their job and the motivation. When it is considered that Herzberg et al. (1957) wrote all this about half a century ago it shows that there is quite a bit of catching up to do in many organizations.

Some years ago the former head of Matsushita Electric, Konosuki Matsushita, predicted the failure of Western companies. He said:

> We are going to win and the Industrial West is going to lose out. There is nothing much you can do about it because the reason for your failure is within yourselves.
>
> Your firms are built on the Taylor model; even worse, so are your heads. With your bosses doing the thinking, while the workers wield the screwdrivers, you are convinced deep down that this is the right way to run a business.
>
> For you the essence of management is getting the ideas out of the heads of the bosses and into the hands of labour.
>
> For us, the core of management is precisely the art of mobilizing and pulling together the intellectual resources of all employees in the service of the firm.

Damning words, but there has been an attitude change in the minds of top management in this country. The way in which Business Process Re-engineering was dismissed as a second-rate fad by most of British industry suggests that, increasingly, management are trying to pull together and work with all employees. Good management is often about having the trust and confidence to delegate.

Motivation

Motivation can be increased by the following means.

Job rotation

One way of attempting to keep motivational levels high is job rotation, where, to avoid employees getting stale through doing the same specialized job all the time, the job each person does is rotated on a daily, weekly or monthly basis, whichever makes sense for operational reasons. This can help employees develop a broader portfolio of skills and let them have experience of more varied work. Improved motivation and thereby productivity may not last though if the employees come to see the rotation as merely exposing them to a series of boring jobs, each as boring as the last.

Job enlargement

A number of similar jobs on the same level are combined into a larger one with a view to generating jobs with more variety and interest. Again this may result in only a temporary uplift before cynicism about a bigger boring job sets in. Horizontal expansion is one way to characterize this.

Job enrichment

Adding more responsibility to a job, such as responsibility for quality, makes it more interesting. This method of job design gives responsibility for some of the planning and control necessary for achievement back to the employee. This can be seen as vertical expansion.

Ergonomics

Ergonomics or the study of work examines the interface between human and machine. It examines the physical environment within which work is conducted. Understanding ergonomics can lead to improved job performance. If we consider the optimum height for a desk, we take into account the task to be performed at the desk and the size of the individual. Standard desk height is usually 29 inches, yet it should be lower for typing or data entry. Having the desk or chair at the wrong

height well affect the posture of the worker and can lead to back and neck pain. Many of the tools, handles, computer keyboards in use put the wrists in an unnatural position. This combined with the repetitive movements of typing can contribute to carpal tunnel syndrome. This syndrome affects thousands of workers annually at great cost to employers, insurers and the health service. Concerns about the incidence of repetitive strain injury among office workers have led to the redesign of keyboards away from the traditional 'qwerty' style, but the familiarity of the existing inefficient layout has prevented these generally from being adopted. There is, perhaps, a design lesson to be learned here – as we shall see later in this book.

Over the years, research has built up large data banks of body measurements, for example the distance most people can reach while remaining seated, important if, for example, the job involves learning forward to adjust a lever.

The physical environment concerns light, noise and vibration, temperature and humidity. Most people achieve their optimum performance in temperatures of between 18 and 22°C. There are legal limits on the time people can work with loud noise and a maximum permitted decibel standard. Severe noise and vibrations can damage hearing. Pollution or fumes can be irritating to the skin or cause breathing difficulties. Filters need to be fitted to minimize the impact these will have on the workforce. Safe working conditions are expected. Health and safety at work legislation set out the responsibilities of employers to provide a safe environment with extensive use of guards and other fail-safe devices as necessary, and the duty of employees not to work in unsafe conditions.

Empowerment

This involves loading the enrichment so that employees take responsibility for decisions that might naturally belong to specialists. It flows from the idea that those most closely involved with operations are in the best position to make decisions about them. It gives employees a sense of ownership of their jobs so that they can use their own knowledge and expertise to manage the details of the jobs.

Case Study: Allow people to manage

The New Deal for Communities (NDC) is a government-financed scheme that was set up with the good intentions of improving conditions in poorer areas. Fairly small areas were identified as having poor housing, high unemployment, high crime and/or poor education facilities. The community runs these well-meaning schemes and the finance involved is not insubstantial. Typically, a scheme will last ten years, involve a community of around ten thousand people and will be funded to the tune of up to £4 million a year, which is quite a lot of money per person. Of course, such an investment will be well justified if it achieves the aims of improving the area, and many NDCs can be proud of their performance.

One of the authors was employed as a consultant by one of these schemes and unfortunately his experiences show that there were serious deficiencies in that

particular scheme. The flaw in the basic idea, in this particular case, lay in the well-meaning theme of 'for the community by the community'. Any such scheme needs well-trained, well-informed and well-meaning leadership.

The author became involved when the scheme was just entering the third year of its ten-year operation. They had a 'shop' where local residents could call in for advice or information and they also had offices with very competent staff. The community decisions were made by an un-elected body of local people on various committees. In principle this sounds effective, and below the leadership level it was. It was the make-up of these committees which was deficient. Ideally, they should have been involved in strategic decision-making, which could then be implemented by the competent full-time employees. In practice, in this case, the committees tended to be made up of people with a bit of spare time, little formal training and (a personal opinion) little ability to deal with this important function.

The main problem was 'micro-management' or, in fact, it was worse than that, it was 'minutia management'. The committees insisted on making every decision, however small. As was overheard, 'If you make any decision without my say-so I will block it' – and this was meant. Furthermore, the various committees disagreed with each other, and as some of the committee members had fallen out with others they seemed more concerned in blocking others', actions than improving the lot of the community. The level of decision-making taken by those on the ground was restricted. Even small decisions had to be taken by a committee, such as what colour they should paint the wall in the office. With committee meetings held once a month and few decisions coming out of these meetings, most initiatives seemed to stagnate. For example, it took the committee two months to decide the colour of some cobblestones for a small part of the pavement. The atempt to introduce a new logo (see Box) was perhaps one of the most ridiculous occurrences.

A graphic designer was commissioned to produce some designs to a specification that had been (eventually) agreed by the relevant committee. Five designs were supplied which were generally considered excellent by those in the office. These were enlarged and laminated, and displayed in the shop on a residents' open day. Members of the local community were invited to stick a smiley face on the logo they liked best. This showed that one logo was significantly more popular than the others.

At the next marketing meeting it was therefore announced that this was to be the new logo, to which one member of the committee responded, 'Who says?' The procedure that had been followed was explained, and that local residents had voted for the chosen logo. To which the reply came, 'They are just people off the street. We represent the community.'

At the same meeting the committee not only threw out all the logos but they threw out the original (agreed) specification from which the logos were designed. After two further meetings they had still failed to reach any decision on how to proceed and it was decided to keep the existing, drab logo for a further 12 months. The whole process had taken four months in which time the new notepaper, signage in the borough and the website had been delayed waiting on the logo decision.

The net effect of this was to make the employees focus on small areas on which they had already obtained permission and do these to death. The other effect was that employees soon became disillusioned, demoralized and sought jobs elsewhere.

When some of the decision-making deficiencies were pointed out to committee members, initially the author was called 'unprofessional' and then all subsequent attempts to implement anything were blocked. The ultimate example of this was a marketing budget proposal that was written for the following two years. This was not unexpectedly 'thrown out', which was the committee's prerogative. What the commit-tee did not consider was that when they threw out the new budget proposal they should also have made provision to maintain the status quo. If they had looked smug in announcing that £0 had been allocated to marketing, they looked less pleased when the Internet went down shortly afterwards and when the monthly newsletter was not delivered and all the planned signage for the area was cancelled as there was no budget to keep going initiatives previously agreed.

After six months of failing to achieve anything, the author declined when asked if he would like to extend his commitment for another six months.

Roles and responsibilities

In many areas we rely on acting in teams. Using multidisciplinary skills collectively can be very powerful if done correctly, and organizations consist of teams of indi-viduals. An understanding of teams and good team orientation will assist individuals and organizations to perform better.

The project may demand a range of skills, which are unlikely to be held by one person. Furthermore, individuals like being in teams as it satisfies social and affiliation need. It is a way of sharing risk and work load with others, a way of establishing self-esteem and also a means of gaining support.

Design circles

Everybody who can make a contribution to the improvement of a service should be involved, but this can cause problems if teams get too big to function efficiently. They become difficult to organize and communication breaks down. Clearly, if everybody who ought to be involved is to be heard, a system needs to be devised so that this can happen. This is called the 'Design Circle'. This name originally came from 'Quality Circles', which were devised by Ishikawa and are used in TQM. The idea was taken into earlier stages of the process – hence the name.

The Design Circle can work from the market research stage through the whole operations process, or for any improvement in any aspect of the service where a process is involved. Of course, in practice, not everybody who would be involved at sometime or another would be included all the time. The personnel in the Design Circle will change as the various stages of the process are completed. New faces will

join and others will leave, perhaps to rejoin at a later stage as their particular expertise again becomes relevant. Membership of the Design Circle is, therefore, fluid and will include those best suited to meet the objective – which is to progress to the next stage of the process. In design, as the design progresses through the various stages of the process the Design Circle will develop until it could eventually be transformed into a Quality Circle when the product is established on the market.

With more people being involved in the decision-making process, the better these decisions are likely to be, up to a point. That point, or rather the maximum size of the group, has been determined by the occupational psychologist Edgar Schein (1969) as nine or under. Above nine the group tends to break down into sub-groups and communication generally is less effective. So the maximum size of the Design Circle should be nine at any one meeting.

Occasionally in the design process the number of people who can make a relevant input exceeds nine. When this occurs two Design Circles should be formed, operating in parallel. This should only be for a short period and as soon as possible the circles must be merged into a single Design Circle again.

Roles and responsibility matrix

With different people coming in at different stages in the process, it can be quite difficult to control the roles and responsibilities of those involved. In many organizations a RACI chart is compiled. This is an acronym for **Responsibility** (the persons who complete the task), **Accountability** (the individual ultimately responsible), **Consult** (the persons to be consulted) and **Inform** (those individuals who need to be told of the decision).

We developed a matrix as another way to do this, and this is now used in a couple of British Standards (BS 7000 Parts 1 and 3).

On the vertical axis are shown all the stages of the process and on the horizontal axis the various people who will be involved in completing that particular stage. This can be combined with the RACI chart to make it more effective.

By doing this at the start you will identify shortages within the skills available, but this need not be a problem. For example, if you discover at the start that in 15 months' time you require three people with particular skills, but you in fact only have one person with these skills, there is plenty of time either to employ or retrain people or subcontract this stage of the work to another organization. Potential problems are significantly reduced if they are predicted sufficiently far in advance so that it is possible to cure them before they become a problem.

This matrix will result in a box for each person at each stage of the process. Put a tick in each box to identify if a particular person will be required to take part at any stage. The last column is headed 'Number in the Design Circle' and in this the total number of people involved at that stage of the process should be written. If this number exceeds nine, it would be advisable to split the design circle into two. Alternatively, it may be possible to divide this stage into two parts to be undertaken in series or, preferably, in parallel.

Job function	Product champion	Financial director	Marketing director	Detail designers	Suppliers	Sales personnel	Service managers	Customers	Implementers	Number in the Design Circle
PROCESS STAGE: INSERT THE NAMES OF THE PEOPLE WHO ARE TO BE INVOLVED AT EACH STAGE OF THE PROCESS										
Design concept										
Detail design										
Testing										
Provision for delivery										
Service launch										
Selling										
In service										
Monitoring and improvement										
Evaluation										
Decommissioning, termination and disposal										

FIGURE 3.1 ROLES AND RESPONSIBILITY MATRIX

Having identified those involved in the improvement process, and where they make their contribution, the next stage is to give each their role and responsibility, as in the RACI chart. The matrix shown is an over-simplification. Usually at each stage there are several activities that must be completed. These should all be placed on the vertical axis, with roles and responsibilities for all parts of these assigned.

These process stages can also be developed into a Gantt chart, with time scales placed on the horizontal axis to aid with the scheduling of the design process.

Most recently the Roles and Responsibility Matrix has been taken further to identify whether people with the right skills and training are being used in each role. It is even taken as far as to see whether they have the right psychological profile, this being measured through psychological and psychometric testing. For example Belbin (1981) identified various team roles that would make up 'balanced' teams and these can be used in conjunction with the Design Circle.

The most recent extension to this is to see if it is possible to identify whether those apportioned a particular role are likely to be capable of performing that particular role successfully. This could result in further training or perhaps people being reassigned to other activities that might better suit their psychological mindset. For example, an introverted character would not suit a role where one has to sell for a living. Such a role requires a more extrovert (and empathetic) character. A few companies are already 'aligning' their staff into roles that best match their personality to make more effective teams.

Key success factors

Research from Henley-Incubator (2003) identified five key success factors necessary to take a new product from the concept stage through to reality. Most of these are 'people-centred'. They specified the need for the following:

1 'A relentless focus on solving a customer problem', this being more important than inspirational ideas or technological innovation.
2 'A leader and a team with a passion to achieve.' A strong commitment of the people associated with the opportunity is a major determinant of the project's success.
3 'A common language for communicating and charting progress.' Design, being multidisciplinary, requires people from various backgrounds and with various skills to be able to understand what the problems are and what progress is being made with the project.
4 'Relevant and quantifiable assets and skills to contribute.' It is necessary to really understand the true nature of the skills needed for a design project and those that are available if success is to be achieved.
5 'Networking is critical.' This is necessary, both internal and external to the organisation.

The three key questions that need to be answered when considering a new product's potential are: Is it real? Can we win? Is it worth winning? The same applies to much in operations management.

Leadership and product champions

Organization of communication is extremely difficult and it would be glib to over-look the difficulties of dealing with people and personalities. Having an effective process is vital but whether it works or not comes down to good leadership and coordination.

Leadership needs to be coordinated. It needs to be well informed and edu-cated/skilled in areas in which decisions are to be taken. There is nothing wrong with devolving part of decision-making to those 'experts' who have greater knowledge in those areas. Leadership does not necessarily need to be strong but it must be focused and in sympathy with the aims of the organization and the whole range of products. It should also welcome change if change means improvement.

> The final test of a leader is that he leaves behind him in other men the conviction and will to carry on.
>
> Walter Lippmann

Good leaders should motivate and encourage others and be able to justify deci-sions (and not be afraid to defend them) once taken in the light of all available infor-mation. And the leader must actually take decisions. No decision at all is often worse than a slightly wrong decision made with the best information available at that time.

Also, the long-term effects of any decisions need to be considered and, if the com-pany is to be visionary, so must be the leadership.

A **product champion** has been defined as 'a person dedicated to the promo-tion and introduction of a new product, although not necessarily responsible for any aspect of the programme' (BS 7000-10: 1995). A more common usage of the term is someone who is not a director but has the power of a director and is sup-ported by the directors for that one project. It is someone who is actively involved at all stages of the process and knows why the decisions were taken at each stage of the process. As seniority tends to decline at the later stages of the process it would be a waste of resources to have a director involved at these later stages.

The product champion must be an optimist and an enthusiast, who pushes the new product forward. They must encourage the others involved in the project and push them to achieve what are often difficult targets within tight financial con-straints. On the other hand, they must be a realist, in as much as when things go wrong and it is apparent the targets or specification cannot be achieved they should recommend that the project be abandoned.

The product champion is the person who makes the ultimate decision to abandon the project once it is apparent that it will be a failure. In reality this often means that the final decision for abandoning is taken by the directors on the product champion's advice, having scrutinized earlier stages of the process to see if the problem could be overcome by, perhaps, changing aspects of the specification. Obviously, the role of

product champion is most important in the team. The objective of a leader is to control and organize the activity of the design team, using the resources available in the best possible way.

A product champion is always needed to fairly overcome the natural differences that occur within any product development. The ideal person to be a product champion is someone who can see the big picture. There are natural differences that appear, for example, between marketing and production, the former wanting a different product for every customer and the latter wanting all products the same to ease automation and economies of scale. It is the product champion who can resolve differences.

The leader should be encouraging the members of the team to perform optimally, while achieving the design team's objectives. They must help the members to understand their roles and their expected contribution. It will be necessary to encourage them to put their personal objectives in second place where these conflict with the team's objectives and to give positive feedback on their contribution and performance. Group leaders must be able to smooth over disagreements and unproductive competition between the team members, using tact, insight, detachment and firm control.

Empowerment and recent improvements in service

Several things have come together over the past ten years to improve the face-to-face service that customers receive. Staff are an expensive necessity so there tends to be fewer of them but they are better educated and better trained. With the wider adoption of TQM and QA these employees are empowered to take responsibility and make decisions. Furthermore (an important aspect of service management), the occasional mistake is tolerated by management and is an indication where further training is required rather than a reason for punishment.

All this helps when things go wrong. Where possible, the service provision should be blueprinted and all eventualities considered and planned for at the design stage. When people are interfacing with people no blueprinted process will always run exactly as written. It is therefore important that employees who face customers are sufficiently flexible to cope with the unexpected and sufficiently skilled to solve the problem.

By and large, in Europe and some parts of the United States this is now the case. When something goes wrong the person in front of the customer will sort things out. Ability and willingness to make snap decisions is a function of good service delivery nowadays.

There are exceptions, the UK's National Health Service being one. Owing to the trend in the UK (following that seen in the United States) for patients to litigate against the health provider, people working in the health service are less prepared to make fast decisions. They first demand a bank of test results, which increases the cost to the health service and delays the onset of treatment.

The inability to take responsibility often occurs in countries where labour costs are low. It is easier to employ a large number of staff but their individual abilities are often lacking. It is when things do not follow the blueprint that staff are not trained to cope with the unexpected and are 'chastised' if they opt to think for themselves. The immediate loser is the customer who has to wait and suffer on indecision. The final loser will be the service supplier itself.

The training of those who will deliver the service must be included as part of the service design. In manufacturing, staff will be trained to 'do the job'. In services, due to the coincidence of production and consumption and people being part of the service delivery, the staff must also be trained in how to effectively serve the customers. This will involve a larger human relations context within the training.

Case Study: A proverbial tale of failure, or how the road to hell is paved with good intentions

Recent literature has described the importance of alliances in developing products and services (e.g. BS 7000-1 1999). Generally, alliances between different organizations or the involvement between an organization and a university can be beneficial, as each can have expertise that the other needs to provide a successful service in the full sense. So, by and large, they are 'a good thing'. But the case study below shows that they can go wrong and here we see the 'communication' problems that were experienced in a multinational joint venture. The case relates to a manufactured product but the lessons learned are equally applicable to companies operating in the service sector.

Introduction: 'There is many a slip between cup and lip'
Often more can be learned from a failure than a success. This case describes a project involving three quite different companies operating at a great distance from each other. It is hard enough to develop a successful product within the bounds of one company. It is even harder when three companies are involved and each may have differing interests, strategies or objectives, and this is such a case.

It seemed like the perfect combination. Company A had patented an invention that could have clear advantages over processes currently used. Company B had extensive experience in the market in which this innovation could be used and they possessed all the necessary test equipment required for the product development. Company C produced some of the raw material that would be used in the product but, also, being a large and successful company, had adequate finance to see the idea through all the design stages, into production and beyond. On paper, with the combination of these companies, it would appear that the project couldn't fail – but it did.

Company A, based in the southern states of America, had invented a new product idea that company B, based in the UK, could sell when developed. There was initially a tie-up between these two small companies and at the low cost, early stages of the design process there was sufficient finance available to fund this highly innovative

product. It soon became apparent though that more finance would be needed to complete the development process and productionize the item.

Up to this point the communication between the two parties had been satisfactory, aided by many trips from the United States by the head of company A. But the development of the product was slower than it needed to be as the cost of the project essentially had to be covered by profits from existing product sales and specified in the development budget. Of course, there were differences of opinion between the two groups in the direction and emphasis in different aspects of the project – the 'scientific' side being led by company A and the market knowledge side led by company B – but these tended to be resolved easily.

'Many hands make light work'

The tie-up with company C seemed likely to solve all the problems. They had adequate finances to fund this development, including all the high costs associated with productionizing the process, which is typically almost half the total cost of any manufactured product (Hollins and Pugh 1989), as shown in Figure 3. 2.
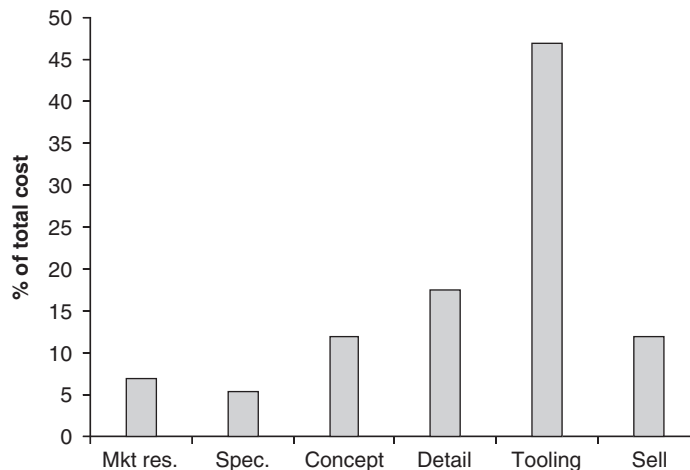

FIGURE 3.2.   THE COST OF DEVELOPING NEW PRODUCTS (AFTER HOLLINS AND PUGH, 1990). THE PRODUCTIONIZING STAGE IS STILL, BY FAR, THE MOST EXPENSIVE STAGE OF THE PROCESS

Pause for Thought

The cost of the stages given here relate to manufactured goods. Why are there no equivalent figures available for services?

Initially, the set-up worked well, but as the product was essentially an invention in its first market form, the time for the various stages of the design proved difficult to predict. The time scale for this highly intensive scheme began to fall behind schedule, but the expenditure of the project was still relatively low at this stage.

'He who pays the piper calls the tune'

At this stage of the development, company C set milestones and stage gateways (Cooper 1988; BS 7000-3: 2006), which had to be achieved before the next financial investment for the development to companies A and B was triggered. Something, often assumed in the design literature, is that the milestones to be reached by each stage gateway should be on a logical progression to the successful conclusion of the design process – which is a successful profitable product operating within its market. Unfortunately, these milestones bore little resemblance to the real needs of this known market but were more related to the relatively unsophisticated test (proving) equipment owned by company C.

The dilemma then arose in companies A and B. Should they develop the product according to the needs of company C or should they go for the market requirements? The pragmatic decision was taken – develop the needs of company C and take the money. After all, this would be a stage towards the needs of the market. The alternative would be to abandon the whole programme or develop the product at a much slower pace than before using the small development budgets of companies A and B.

'Too many cooks'

One of the successes of Japanese industry has been explained as the close link between product design and process design (design of the method of manufacture). Even so, at this detail and embodiment stage (Pahl and Beitz 1996; Pugh 1982) of the design process there had been little real thought given to how the product could be manufactured in the large quantities anticipated.

Both A and B had always realized the potential of the product and, if it could be mass-produced at low cost, new markets would then become open to the device. A decision had been taken, early on by A and B, not to quickly 'commoditize' the product, that is, mass produce for low cost high volume markets.

With any new product (MP3 and DVD players for example) the initial product is introduced at a high cost and in small quantities and then the price and costs fall. This is due to the high cost of R&D being paid off and the initial high introductory promotion slows as customers become familiar with the product. Also, the high cost of productionizing and automation (if any) can more easily be clawed back.

Best (2005), amongst others, has discussed how people purchase new products that are introduced on to the market. Initially, the purchasers are called 'innovators' and in the next stage of the product life cycle they are called 'early adopters'. These people do not mind paying the high introductory price because they want the special features of the product (or want to impress their neighbours). As production builds, economies of scale are introduced and competition appears, the price will fall and this results in greater market penetration. The product will eventually become a 'commodity' that can be afforded by almost any user.

With the finance available from company C it would be possible to quickly move towards commodity markets so the design could be produced not only for the high value end but for the lower value market also.

'In the land of the blind the one-eyed man is king'

Productionizing was taken up by company C as they had a vast experience in both batch and mass production. Unfortunately, this experience did not include knowledge of the specific techniques needed for this development. Company C tested many of their own prototypes but, when samples came to company B for test on their more advanced equipment, it was clear that they were some way from being reliable – the most important aspect of any product or service (Hollins and Pugh 1989). As the product was performing, it was not competitive with company B's existing offerings.

> *For a product to succeed it must demonstrate advantages over that already on the market – benefits, which may also be 'Unique Selling Propositions' (Dibb et al. 2001: Hollins et al. 2003). Competition is always wider than most companies realize (Levitt's Marketing Myopia, 1960).*

Communication

At this stage of the process, lack of 'empathy' between the participants meant that it was difficult to sort out the problems in frank discussion. At last there was a degree of concurrency within the design process as the product design and process design was occurring together. But, as said by Andreasen (1994), one of the most important aspects of simultaneous engineering is the need for effective communication, but communication across countries proved to be a problem. Initially, the various parties made visits for face-to-face meetings but this was expensive. Then telephone conferencing was used and, at first, this was thought to be beneficial, as it was not expensive and saved valuable director time spent in travel.

After a couple of months of such negotiations, however, they were abandoned in favour of a return to face-to-face meetings. This was because the barriers between the three parties seemed to be growing. The 'non-verbal' communication was missing and, after some phone meetings ended in acrimony, it was realized that communication really is better when undertaken round a table. The informal discussion on the weather, family and social events tends to be missing in a formal link-up and a 'them and us' situation is enforced. This was partly overcome by the parties all meeting together in the United States for a social get-together, where talk of work was out and the aim was purely to have a good time and increase the informal communication.

Leadership

What the project really lacked was an independent product champion. Usually differences of opinion, when they occur, do so between different departments with different priorities but all within the same organization. This was magnified in this case, where the participants were from different companies. Within a single company it should be fairly easy to ensure that the product champion has the best aims of the company at heart. But in this case (and similar multi-company projects), who could be an impartial product champion?

Some years ago the author was involved in consultancy with a company that made wind generators. Senior managers who were extremely competent and well qualified made technical decisions but their abilities were focused on the small area of their expertise. In a particular project a product champion was selected who was aged 25. He was not as senior as the other managers involved but he was capable of seeing the 'big picture'. Each manager would give his or her expert opinion and the young product champion then decided the overall direction for the project. In this particular project it worked.

Over the months effective communication became less efficient as the various groups battled with the difficulties that arose in the development. A satisfactory solution in this project was never found, and to our knowledge, there has been nothing researched that solves this problem. How can an independent product champion be selected in multi-company developments?

Perhaps an outside consultant would have helped to solve the problem. This would come at significant cost if someone was to have sufficient involvement in the project to know the 'ins and outs' of each company as well as being able to understand the technology.

Concurrency

Concurrent engineering (doing aspects of the development in parallel to save time) often works well when the detailed stage and implementation takes place in parallel. This is more difficult with an innovative product that, by its very nature, is not fully understood (Hollins and Hollins 1991). In this development the attempts were being made to productionize at the concept stage, where fundamental changes were still being made to the design. This caused much 'stalling' in company C where they would start to embark on production tools only for the basic elements of the concept to be changed by company A rendering the new tooling obsolete.

A lesson to be learnt is that concurrent engineering can only be effective when the basic concept has been finalized (agreed and signed off). Those implementing a service need a fair degree of stability. Concurrent engineering does *not* mean that all stages of a design process can be undertaken in parallel. At many stages (and between several of those stages) concurrency is inappropriate.

Conclusions

It is hard enough to develop a successful product within the bounds of one company. It is even harder when three companies are involved and each may have differing interests, strategies or objectives.

In retrospect, one could see that the demarcation lines drawn were too strongly. Company A (leading the scientific side) tended to ignore design improvements proposed by company B, ignoring the latter's vast experience in developing solutions (albeit less scientifically based) in their home market. This was similar to 'over the wall' design as first described by John Crawford of Cranfield University in the

mid-1980s. It also ignored the observations of Osborne (1993) and others that the most senior people or specialists do not necessarily have all the best ideas at the concept (creative) stage of the design process.

The study shows the importance of specifying the *right* milestones in a stage gate process (Cooper 1993). In this project they were related in terms of technological 'breakthroughs' rather than the needs of the market.

A lot has been made of the effectiveness of video and conference calls in multinational projects. Certainly this saves money and time, but in this case the loss in the informal and non-verbal communication had serious damaging effects on the trust between participants and the likely success of the venture.

Leadership (a product champion) is necessary in a design project (BS 7000-2: 1997). It must be recognized that the richest and largest company may well harm their own position by taking a too dominant role in the leadership and operation of such developments (Badke-Shaub and Stempfle 2004). The results confirm that understanding of technology and the market can be equally as important as adequate finances in design.

'A rolling stone gathers no moss'

It should be said that the product was eventually successful and is now on the market.

Case Study: Cool logistics – the profit is in the service

As has been said, many services 'ride on the back' of manufactured products – for example, car sales need cars. What is often overlooked is that the service side can often be designed and developed to be the greater part, and the most profitable part, of the offering. Such is the case with Cool Logistics, a company based in Leighton Buzzard that specializes in the design and manufacture of insulated shipping systems.

The company

Cool Logistics was started in the December 2000 to design, validate, manufacture and test products. The actual product is essentially very simple but to meet the customer requirements often entails some very innovative solutions and these are backed by exhaustive testing. Turnover has grown dramatically in each year of operation through incorporating service principles throughout the organization. They now employ about 60 people.

The key to the company's success has been to focus on customer requirements and to be flexible enough to develop tailor-made solutions to meet these requirements. This means getting close to customers, allowing a personal relationship to be built between customer and company. Beyond merely reacting to customer requests, the service is designed to offer solutions to meet unusual customer requirements. Doing such 'specials' has been the undoing of companies in the past but in Cool Logistics it has been found that going that bit further to provide help often results in being placed on the customer list as a 'preferred supplier'.

Blueprinting

When the company was set up the directors envisaged the 'customer journey' for each service eventuality. These processes were blueprinted in some detail and these blueprints analysed to determine and fully understand the 'customer touch points', that is, the customer journey and where the customers might contact or need help from the company.

As was said in 1980 by Jan Carlzon, then President of Scandinavian Airlines, 'All instances where customers come into contact with our organization constitute "moments of truth" – unique, never-to-be-repeated opportunities for us to distinguish ourselves memorably from competitors.' And this is still true today.

Processes were designed to optimize the efficiency in each of these contacts. Of course, it was not possible to envisage each eventuality, especially in a company growing so fast. The basic blueprints have been enlarged and adapted and are now endemic within the organization and do appear to ensure a good service.

This 'service element' has been taken further in the company. Occasionally a customer will ring up with an urgent request for product testing or validation. Quite often this is because the customer has 'blundered' in anticipating their own require-ments. The company communications have been designed to solve these 'crises' at short notice and 'getting customers out of a hole' usually results in longer-term ben-efits. This means losing other operational advantages to meet this goal: for example, the company finds that is has to hold large quantities of stock in order to provide this service – JIT from suppliers would not provide a sufficiently good service.

Customer relationship management and total quality management

One other feature of the service (from the blueprint) is that, before invoices are sent out, all customers are telephoned to obtain customer feedback and to ensure that they are pleased with the service that has been provided. As problems are immedi-ately solved this has virtually eliminated customer complaints. This is all part of rela-tionship management which is a growth area in service provision and is based on the principle that it is easier to retain existing customers than it is to attract new ones. There is a close link between this and Total Quality Management. The instigator of TQM (W. Edwards Deming) said that the aim was to 'delight' customers – to go beyond what they expect. This is further enhanced through an effective and easy-to-use website and literature, all of which has been designed by qualified designers.

As in many organizations, the staff undergo continuous training but in Cool Logistics the staff are also trained in areas such as teamwork and creativity. It is believed that this training enhances their flexibility to cope with the unexpected and does improve their performance. This informal and 'organic' approach to the company organization is a further example of how design principles permeate throughout the company.

Employees are also empowered to make decisions and to offer suggestions to improve the way the company works. Originally, this was just for the office staff but this has now been extended to involve everybody in the company. Prizes are awarded for the best ideas.

But what of the internal customers?

There is another dimension to this. In such a fast-growing company trying to respond to 'instant' customer demands, the stresses and strains within the company grew

along with the success. The spectacular growth of Cool Logistics has had its 'down side'. Everybody was working harder and faster and, as a result, some people were feeling that 'working here is not as much fun as it used to be'. The solution was sought to this problem through an 'internal market research' investigation to see if these difficulties could be overcome through better communication or better processes.

The key again came from Total Quality Management. An aspect of TQM is 'internal customers', who are those people with whom one directly works inside the company. Cool Logistics was responding instantly to the needs of outside customers and these were being achieved at the expense of the internal customers.

The research

Using a questionnaire, all the employees were interviewed over a period of two days. Questions covered aspects of work, processes and communication but also enquired as to any problems or ideas that could improve their work or make life at Cool Logistics less 'stressful'. If they could think of ways to make their life easier (and the life of those they worked with) all would benefit. The company would be a happier and more efficient place in which to work. Some of the discussion ventured into other areas and this unearthed further opinions and perceptions.

The results

It was found that almost everybody felt, in most cases, they were helped by others to do their job and that people rallied around when there were problems. Also, quite a few stated how much they liked the informal and relaxed way the organization was managed. They also enjoyed the company outings that further endorsed the informal nature of management within Cool Logistics. It is important to maintain this informal approach even though it is accepted that this becomes increasingly more difficult in any growing company. When one stated that his only complaint was that he 'had to work through Friday afternoon' then there clearly were not too many problems. Another man stated that this was the happiest company in which he had worked.

Generally, internal communication appeared to be good but a few of the operatives stated that they had been working for Cool Logistics for some time before they realized what the company did ('I didn't know what the products were used for'). This was easily resolved. A two-page leaflet to hand out to all new starters has been produced stating a little about the company, what it does and where its products are used.

On the broader front, most felt that they were not getting enough information from the directors as to where the company was going ('information comes down the grapevine from directors'). By the amount of work people were doing everybody realized that the company was growing fast, but several were unsure if this was a general trend or just a short-term happening. On this basis, a newsletter was produced once every two months and the general opinion was that this newsletter should not show long-term plans but should concentrate on particular jobs and customers. Furthermore, the directors now hold monthly meetings with all staff to state what has been happening and to answer any questions. They also now make a point of regularly wandering around production thanking people for their efforts and praising their work and asking if they have any questions or suggestions.

Another area that needed to be resolved was the lack of 'people skills' from line managers. As one respondent said, 'it would be nice to be asked to do things rather than just being told to do it'. These people had often been employed when the company was small but now were managing groups of workers but had no skills in this area. To this end human resources training has been given and this will focus on taking a more friendly approach to managing those with whom they work.

The questionnaire unearthed one major surprise. It was discovered that there was one important and growing product that almost all the production operatives hated having to make. The solution in the short term was to organize a rota that, at least, ensured that all did equal stints on the job. For the longer term, process design has come to the rescue and production of this particular product has been automated. The unpopular job, but not the product, has been designed out of the company.

Conclusions

Managers tended to focus on dealing with customers and often overlooked the 'internal customers' – their staff. Their involvement and efficiency can often be improved through following the initial 'trigger', in this case that there were problems due to the fast growth of the company. Market research was undertaken to fully understand the needs of the (internal) customers. From the results of this market research several small specifications were written and these were then discussed in a brainstorming session. In this (concept) session various solutions were proposed and the 'best' of these agreed and then implemented. In this case they had to meet the needs of the staff but also had to be viable and not interfere with the effective operation of the company.

The mission of the company is 'striving to be a pleasure to do business with'. They achieve this through designing then implementing a good service. The company has been structured and runs on good service, its continuing success suggesting that such a principle works.

Managers – you are often the weakest link

Management have often been the weak link in the chain. *Management Today* proudly announced in the September 1999 edition that 50% of British managers have a management qualification. A step in the right direction you might say, but only 50%? How many of you would use an unqualified dentist, doctor, accountant or welder? Why do we put up with unqualified managers? Many organizations have suffered at the hands (and minds) of these unqualified managers – the sort who have shelves of the latest management books all of which have never been opened (the information is imparted by some form of osmosis).

And on what do these top managers base their decisions? The one-day conference is where these managers become educated to the point of expertise. Choosing the conference is a tricky business. First the conference must have an elaborate title, which can then be shortened to a handy acronym, such as Rationalization over Technomation

(ROT): Then it must have a decent lunch included, and it must have a formidable fee attached to keep the riff-raff out (say, £800/day). Then, armed with this little learning (which is a dangerous thing) they become influenced into accepting the importance of the latest fad. Unfortunately, although they have been convinced of its importance, they haven't been shown enough so that they can actually implement it.

They return to work charged up with ideas for change. Change doesn't necessarily mean improvement. As they only have half the ideas worked out, they then call in the management consultants (are they qualified?) – and then the fun really starts.

From probably well before the Boer War we British have a history of being 'lions led by donkeys' in more than just war. Sometimes it is amazing that in spite of all this stacked against us, we often manage to succeed. You, as users of this book, are learning to be managers, and (if you do it properly) you will be better able than many to cope with managing processes and people.

DOES THIS STRIKE A CHORD?

Once upon a time there was a boat race between a Japanese crew and a National Health Service team. Both practised hard to reach their peak performance but on the big day the Japanese won by a mile.

The NHS team became discouraged and morale sagged. Senior managers decided the reason for the crushing defeat must be found and set up a working party to investigate the problem. After six months of deliberation, they came up with a substantial report and a recommendation for action.

The working party concluded that the Japanese had eight people rowing and one steering while the NHS team had eight steering and one rowing. It immediately hired a consultancy to look at the team's structure. Millions of pounds and several months later the consultants reported that too many people were steering and not enough rowing.

To avoid losing again the team structure was changed to give three assistant steering managers, three steering managers and one executive manager, and a director of steering services. A performance and appraisal system was also set up to give the person rowing the boat more incentive to work harder.

The Japanese were challenged to another race – and won by two miles. The NHS managers responded by laying off the rower for poor performance, selling the oar and cancelling orders for a new boat. The money was used to finance higher than average pay awards for the steering group'.

(Anon.)

In the end, an organization is nothing more than the collective capacity of its people to create value. Lou Gerstner, CEO of IBM

SUMMARY OF KEY POINTS

- This chapter has been about how to do things through people. Processes are essential to get things done but who does these things and how they lead and communicate need to be effective if any process is to be efficient.
- Good management needs delegation and this needs trust and empowerment.
- Good leadership is essential and a product champion can provide this.
- The Roles and Responsibility Matrix can show who should be involved and when. People can be profiled so that they are is given the right job for their personality.
- The several case studies have indicated where good and bad people management has occurred. One case showed that internal customers can be almost as important as those a company sells to, if the operation is to work effectively.

STUDENT ACTIVITY 3.1

1   What is the role of ergonomics in job design?
2   How could you select a suitable product champion?
3   What is the purpose of the Roles and Responsibility Matrix?
4   What is the 'internal customer?'
5   What is the difference between informal and formal communication?
6   There are two different descriptions of the role of the product champion, what are these?

STUDENT ACTIVITY 3.2

You are a director who wants to (a) start a new service and (b) improve an existing service.

1   What sort of information should you give your project manager?
2   What sort of information do you want back?
3   When do you want this information back?
4   How will you decide that it isn't worth pursuing any particular product?

Guidance

As you consider this you will see that much of the information that is required is quite different for a product improvement than for a completely new product. In the former those involved are familiar with the product, what it does and where it sells. In the latter the whole point of the product is often not clear and much more information is required at the start of the process.

As a director you will not want the small day-to-day information but broader information regarding the time scales and cost of the development. The project manager will want to know what parameters he/she must operate within. Essentially, this is what is allowed by the company and specified by the director.

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Describe the role of the product champion.

Guidance

The role of the product champion depends a lot on how the term is defined. In some circles it is a term to describe somebody who supports but does not actually take part in the day-to-day development activities. Elsewhere the term is used to describe someone who is actively involved in day-to-day activities. Take the latter use of the term.

Your answer should include the planning of the activities but also the likely communication problems and conflicts that might occur between people with differing priorities (marketing and production). It will be easier to answer this if you think of specific product developments.

What kind of information does top management require from the product champion as the design project progresses?

FURTHER READING
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