Chapter 5

Philip B. Crosby

Quality is not only right, it is free. And it is not only free,
it is the most profitable product we have.
Harold S. Geneen (cited by Crosby, 1979)

KEY LEARNING POINTS

Philip B. Crosby's definition of quality: **conformance to requirements.**

Five absolutes of quality management:

- quality as conformance;
- no such thing as a quality problem;
- always cheaper first time;
- the only measurement of performance is the cost of quality;
- zero defects.

Three key beliefs: quantification; management leadership; prevention.

Principal methods: fourteen-step quality programme; the 'quality vaccine'

INTRODUCTION

Philip Crosby is a graduate of the Western Reserve University and has a professional back-ground in quality. Following military service, he went into quality control in manufacturing, where he worked his way from line inspector to quality director and subsequently corporate vice-president of ITT. Based on many years of practical experience, his first book became a best-seller and led him to establish the consulting organization Philip Crosby Associates Incorporated and the Quality College based in Florida. He is described by Bendell (1989) as 'particularly well marketed and charismatic', by the *Financial Times* (26 November 1986) as having 'the look of a sunbelt Senator rather than a man from the quality department' and

by Bank (1992) as delivering his message with 'almost religious fervour'. Clearly, he is a man who acts as he speaks, or 'walks the talk'. His approach has been well received: over 60,000 managers have been trained at the Quality College and his quality books, particularly *Quality Is Free* and *Quality without Tears*, continue to sell well.

5.1 PHILOSOPHY

Crosby's philosophy is seen by many, for example Gilbert (1992), to be encapsulated in his five 'absolutes of quality management' (Box 5.1). Each of these absolutes will be examined in turn to consider its meaning.

First is Crosby's definition of quality. It suggests that when he talks about a quality product or service he is referring to one which meets the requirements of the customer or user. This means in turn that those requirements must be defined, in advance, and that 'measures must be taken continually to determine conformance' (Flood, 1993: 22). The requirements may, of course, include both quantitative and qualitative aspects, although as shall be shown, Crosby's target emphasis is towards the quantitative – that is, 'Zero Defects'. The first fundamental beliefs, then, are that quality is an essentially measurable aspect of a product or service and that quality is achieved when expectations or requirements are met.

Crosby's second absolute is that 'There is no such thing as a quality problem.' He is implying that poor management creates the quality problems; they do not create themselves or exist as matters separate from the management process. In other words, the product and product quality do not exist in a vacuum; they are a result of the management process, and if that process has inherent quality, then a quality product will emerge. The second belief, then, is that management must lead the workers towards a quality outcome.

Third, 'It is always cheaper to do it right first time.' Logothetis (1992) suggests that 'A company which relies on mass inspection of the final output to improve quality is doomed to stagnation.' It is possible to go further than this and suggest that a company focused on inspection will be achieving more than it deserves if it stagnates. It is more likely, in the long run, to fail altogether. Here, Crosby is making clear his belief that inspection is a cost and that quality needs to be *designed into* a product, rather than flaws being *inspected out*. This can be taken as a belief in the potential to achieve quality – that is, conformance to requirements – by developing a quality process and product from the outset with no expectation of failure. Prevention of error is better than rectification.

Fourth, 'The only performance measurement is the cost of quality.' Crosby clearly believes that the cost of quality is always a measurable item – for example, the cost of rework, warranty

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Box 5.1 *Philip Crosby's five absolutes of quality management*

Quality is defined as conformance to requirements, not as 'goodness' or 'elegance'

There is no such thing as a quality problem

It is always cheaper to do it right first time

The only performance measurement is the cost of quality

The only performance standard is Zero Defects

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costs, rejects – and that this is the only basis on which to measure performance. It is, as suggested by Logothetis (1992: 85), the 'price of non conformance'. As a practical measurement of quality, this might generally be considered to be useful, although it cannot be seen as the only measure. Rather, it is a direct monetary measure of quality within the overall performance of the organization. Crosby's belief in a quantitative approach is evident.

Finally, 'The only performance standard is zero defects.' The idea here is that perfection is the standard to aim for, through sound initial process and product design, continuous improvement, and underpinning that 'Zero Defects' is an achievable and measurable objective. Here again, Crosby's fundamental belief in the quantitative approach to quality is made clear, with perfection, 'Zero Defects', proposed as the target.

To summarize Crosby's perspective on quality, there appear to be three essential strands:

- a belief in quantification;
- leadership by management;
- prevention rather than cure.

Quality, then, is suggested by Crosby to be an inherent characteristic of the product, not an added extra. He believes, for example, that 20 per cent of manufacturing cost relates to failure, while for service companies this is around 35 per cent. He considers that the workers must not be blamed for error, but rather, that management should take the lead and that the workers will then follow. Crosby suggests that 85 per cent of quality problems are within the control of management.

5.2 ASSUMPTIONS

The assumptions about the world that seem to underpin Crosby's approach will now be considered.

First, it can be clearly seen that Crosby focuses attention on the management process as the key driver of quality. That is to say, if the management process is not functioning to achieve quality, then a quality product or service will not arise. If a causal chain view of the development of a product or service is adopted, it is easy to see value in this assumption. For example, if quality is defined as 'conformance to requirements', then it is absolutely essential that requirements are defined and communicated among all stakeholders. If this first step is not taken – for example, if the company manufactures what it can, rather than what the consumers demand – then there will be an eternal quality problem since the customers' requirements can never be met. This constraint, to define conformance requirements, must be met for every aspect of the product: design, function, colour, delivery, price, and so on.

The second assumption is that 'zero defects' is an achievable objective. The implication here is that any product can reliably be made, in relevant volumes, entirely free of defects. This raises the question of exactly what constitutes a defect. Work in this respect must start from Crosby's quality definition – conformance to requirements – and say that any product which conforms to requirements is defect-free. This again highlights the importance of the product specification in determining what constitutes quality.

The third assumption is that it is possible to establish a company that 'does not start out expecting mistakes', where errors are not expected or inevitable. While this is an admirable ideal, it must be considered exceedingly difficult to achieve in practice. Culture, staff, levels of training and skill, and aptitude for the particular task are all aspects that move over time. In any large manufacturing facility, for example, labour turnover at the shop floor level is likely to run at a level of around 8–10 per cent simply from natural causes such as ill health and retirement. To achieve and maintain a consistency of expectation of zero defects in these circumstances may be seen as unreasonable – unless the management is sufficiently determined in its resolve to achieve quality. Operationally, and particularly where some qualitative or subjective judgement element applies to a product, managers are often faced with a dilemma between delivering volume or achieving conformance to requirements.

This problem was frequently met by management at 'Tarty Bakeries' (Flood, 1993: 209–221), makers of hand-decorated cakes, where the production manager could fulfil one or the other requirement exactly. More often he would make a subjective decision that cakes rejected at inspection actually conformed to requirements! This again leads back to the basic issue of 'requirements': what are they, how are they defined, who decides them?

Crosby is not particularly illuminating on this issue, which, as can be seen, has critical impact. In the context of a physically hard and readily definable product, specifying require-ments is essentially straightforward. In the context of natural products such as foods, whether processed or not, and services, certain characteristics of the product are less tangible, or even intangible, except at the point of consumption. Consequently, it is very difficult to specify requirements and even more difficult to know whether these have been met. The Chesswood Produce story (Vignette 5.1) illustrates this point. Since you cannot have your cake and eat it, it is difficult to know whether it matched the requirements unless these requirements are so loosely specified as to be almost meaningless.

5.3 METHODS

Crosby's principal method is his fourteen-step programme for quality improvement (Box 5.2). It is essentially very straightforward and relies on a combination of both quantitative and qualitative aspects.

The first two steps may be seen as addressing cultural aspects of the organization. The first is about management commitment; this means the management accepting responsibility for, or an obligation to, achieving quality. Such a commitment then constrains management to consist-ently behave in a manner oriented towards quality achievement. This may proscribe or inhibit many of the traditional ways in which they have managed – however effective or ineffective these may have been.

When linked to the second step – the formation of quality improvement teams – a further traditional boundary is broken. Organizations are still structured predominantly on functional lines. Crosby specifically requires multidisciplinary teams. This means that managers and other staff must break out of their 'comfort zones' and, inevitably, relinquish some of the 'expert' and 'position' power (Handy, 1985: 124–126) that goes with the functional organization. A wholehearted embrace by management of these two steps alone may be considered a major achievement!

VIGNETTE 5.1   **CHESSWOOD PRODUCE LTD**

Chesswood Produce is a long-established and successful mushroom-growing business. Operating from two sites in the United Kingdom, it supplies mushrooms to the major supermarket chains and the wholesale market. Mushroom growing is a 24 hour per day, all year round business.

As with other production businesses, the keys to success in a highly competitive market are productivity, yield and quality. To ensure that quality standards are maintained, the staff at Chesswood adhere to rigorous controls in the entire process of growing, cropping and packing the mushrooms – over 400,000 lb (180,000 kg) of them per week – around 200 tons!

The eight-week growing process starts with the preparation of compost, which is mixed and matured to a standard 'recipe' consisting of straw, different kinds of manure, water and various trace ingredients. Once pasteurized, the compost is run with spawn, placed in trays and cased with a protective layer of peat. The mushroom spawns are sourced from a single supplier and, once again, adhere to rigorous quality and performance standards. The cased trays are then moved to climate-controlled growing sheds, where they are monitored during the growth period. The monitoring system controls the air temperature, moisture content of the trays and air movement, with the aim of maximizing yield and minimizing damage to the very delicate crop. To meet the demands of the supermarket customers, careful planning is required to enable sufficient quantities of mushrooms to be available on the correct day of each week; mushrooms have a very short shelf life.

Despite these efforts, and the considerable skill and expertise of the mushroom growers, the crop matures at slightly different rates so that the mushrooms do not all appear at the same time or are not all the same size; each one doubles in size every 24 hours in the final stage of growth. Some are early, being ready to pick ahead of the others, some late.

This presents a problem. The mushrooms will not grow to meet accurately the exacting specifications laid down by the supermarkets. Each quality specification fills a binder covering around eight product categories from buttons, through closed cups and open cups to flats (open field-type mushrooms). The specification covers the size, shape and colour of the mushrooms as well as the packaging and labelling standards. While these latter standards can be specified and met exactly, when it comes to the mushrooms themselves Chesswood and their customers are relying on the judgement of individuals. This natural product just cannot be 'made' to a standard specification.

Chesswood is continually under pressure from its customers to improve quality – whatever that may mean in the circumstances. Eight lorry-loads a day leave Cheswood's sites, and very few mushrooms are returned as out of specification!

Consider how Crosby's approach could be applied to any other business in which natural variation in the product is inherent.

Box 5.2 *Philip Crosby's fourteen-step quality programme*

Step 1   Establish management commitment – it is vital that the whole management team participate in the programme; a half-hearted effort will fail.

Step 2   Form quality improvement teams – the emphasis here is on multidisciplinary team effort. An initiative from the quality department will not be successful. It is essential to build team working across arbitrary, and often artificial, organizational boundaries.

Step 3   Establish quality measurements – these must apply to every activity throughout the company. A way must be found to capture every aspect, design, manufacturing, delivery, and so on. These measurements provide a platform for the next step.

Step 4   Evaluate the cost of quality – this evaluation must highlight, using the measures established in the previous step, where quality improvement will be profitable.

Step 5   Raise quality awareness – this is normally undertaken through the training of managers and supervisors, through communications such as videos and books, and by displays or posters.

Step 6   Take action to correct problems – this involves encouraging staff to identify and rectify defects, or pass them on to higher supervisory levels where they can be addressed.

Step 7   Undertake zero defects planning. This is done by establishing a committee or working group to develop ways to initiate and implement a Zero Defects programme.

Step 8   Train supervisors and managers. This step is focused on achieving understanding by all managers and supervisors of the steps in the quality improvement programme in order that they can explain it in turn.

Step 9   Hold a 'Zero Defects' day to establish the attitude and expectation within the company. Crosby sees this as being achieved in a celebratory atmosphere accompanied by badges, buttons and balloons.

Step 10   Encourage the setting of goals for improvement. Goals are of course of no value unless they are related to appropriate timescales for their achievement.

Step 11   Encourage obstacle reporting, whereby employees advise management of the factors which prevent them achieving error-free work. Such factors might include defective or inadequate equipment, poor-quality components, etc.

Step 12   Provide recognition for contributors. Crosby considers that those who contribute to the programme should be rewarded through a formal, although non-monetary, reward scheme. Readers may be aware of the 'Gold Banana' award given by Foxboro for scientific achievement (Peters and Waterman, 1982).

Step 13   Establish quality councils. These are essentially forums composed of quality professionals and team leaders allowing them to communicate and determine action plans for further quality improvement.

Step 14   Do it all over again. The message here is very simple: achievement of quality is an ongoing process. However far you have got, there is always further to go!

The third and fourth steps are quantitative and directly linked again – the fourth is simply not possible without the third. Measurement is a necessary precursor to evaluation.

These steps in turn provide a platform for the fifth step: raising quality awareness, a more qualitative issue. To make the quality training relevant for supervisors and managers, it needs to be set firmly in the context of the quality status of the firm as evidenced by the measurements.

This step also may be seen to act as reaffirmation of the first two steps: gaining commitment and the multifunctional approach. Through measurement and evaluation, the interrelatedness of quality issues across internal boundaries can be highlighted.

Step 6 is to take action. The other steps are worthless unless they lead to preventive and corrective action. At this point, staff really must 'walk the talk'. It has both qualitative and quantitative aspects. If the numbers generated through the measurement system are simply used as clubs with which to beat the heads of the staff, they are unlikely to prove very helpful. The numbers must be used to provide guidance and support to the action taken and the actions taken must be in harmony with the words spoken.

Once step 6 has commenced, the organization can be seen to have established a sound platform for quality improvement: staff and management are committed and action is being taken. It could be argued at this stage that provided the momentum of improvement is maintained, quality will continuously improve. Crosby's process, however, sees this as insufficient; with the process firmly established he proposes an increased effort and impetus towards 'zero defects'. This is the thrust of step 7 – zero defects planning – which strives to establish a zero defects programme, an essentially quantitative target but achieved through both soft and hard approaches. Step 8 involves training of supervisors and managers so that they can pass on the programme to their subordinates. This tactic of 'train the trainer' is a powerful mechanism for culturally embedding the behaviour changes that are required – provided always that the more senior managers similarly embrace the changes.

Step 9, Zero Defects Day, may be seen as both a celebration of achievements to date and a new beginning to the quality improvement programme. This takes Zero Defects as a very precise, quantifiable and achievable objective. Following the previous steps, it should be accepted by the whole organization as possible and necessary. Step 10 is a natural consequence of step 9 and requires commitment to achieving goals for improvement tied to defined and relatively short-term timescales. Again it is quantitative in nature, the results being directly measurable.

Step 11 – obstacle reporting – is a communication device which recognizes that failure to achieve quality in one area may be related to failure in another, or to local factors which inhibit quality achievement. This process enables those facing problems to report them, and, importantly, it places obligations on management to address those issues. Time-frames for response and action are built into this step, which requires both a change in culture – the acceptance by management of criticism from the workers – and a change in the nature of managers' roles. Particularly for problems which cross functional boundaries, it will be insufficient for managers to concentrate on their own direct areas of responsibility; they will have to work with managers of other areas to achieve the targets.

Step 12 requires acknowledgement of the contribution of staff to the process – a direct reward for the efforts made. Crosby is very specific that these rewards should be formal but non-monetary. This step is largely cultural in its impact. Recognizing and rewarding the contributors to the programme is a device for reinforcing among the whole staff a particular kind of behaviour, further embedding the quality culture.

The establishment of quality councils at step 13 is seen as 'institutionalizing' the quality programme – making it a part of the embedded culture. It becomes at this stage an integral part of the way in which the company is managed and controlled. Mainly qualitative in nature, it will affect many aspects of the way in which the staff of the company behave in the future.

The final step – 'Do it all over again' – should be seen as a reminder that quality improvement never stops. Any programme such as this will, over time, lose impetus and thrust simply because the original, perhaps revolutionary, leaders will achieve the objectives which they set themselves. They may find it difficult to maintain the initial enthusiasm and drive. In order to sustain and develop the programme, it will be necessary to pump new energy into it by the appointment of fresh people and the establishment of new objectives.

Crosby's 'quality vaccine' (Logothetis, 1992: 82–83) is an essential part of his process. It is based on three principal ingredients:

- integrity;
- dedication to communication and customer satisfaction;
- company-wide policies and operations which support the quality thrust.

Logothetis proposes a triangle (Figure 5.1) of interaction between these three ingredients which must be supported by Crosby's belief in how the vaccine is administered. This again has three strands:

- determination – awareness that management must lead;
- education – for management and staff;
- implementation – creating an organizational environment where achievement of quality is regarded as the norm, not the exception.

This chapter is not intended to provide an exhaustive account of methods, tools and techniques; that is for Part four, where aspects of Crosby's approach will be returned to in more detail. The 'how' rather than the 'what' will be dealt with in the appropriate chapters. This section has, however, provided an introduction to the principal strands of Crosby's method, which can be seen as based largely in quantitative outcomes and to rely heavily on an evangelical attitude among both the management and the staff.

5.4 SUCCESSES AND FAILURES

Quality gurus, like doctors, are prone to advertising their successes and burying their failures. Companies act similarly: a successful quality programme will be advertised in order to attract
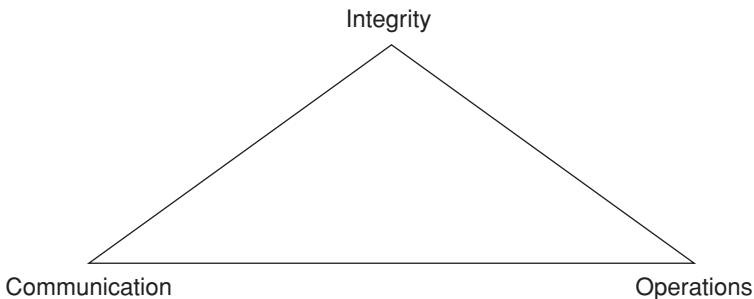
Figure 5.1 *Philip Crosby's triangle of interactions*

customers, whereas a failure will be swept under the carpet, with executives pretending that it never happened. It thus becomes impossible to find reported empirical evidence of failure.

Success, on the other hand, is shared. The guru proclaims the success of his method, while the company proclaims the success of its strategy and acknowledges the contribution made by its interpretation of the particular guru's approach. Chrysler's Lee Iacocca, for example, cited by Bank (1992: 75), says, 'we established our own Chrysler Quality Institute in Michigan, modelled after his [Crosby's] operation – our company's put about twenty thousand of our people through it . . . and I admit they do return with QUALITY stamped on their foreheads.' Thus Crosby's contribution has been explicitly acknowledged here, but Chrysler has used his work as a model. What we cannot see is how closely the model follows the original!

With his consulting company, Quality College and overseas operations firmly established, Crosby must be acknowledged as having been successful. It is also the case that sufficient client organizations must have found the approach useful to have sustained the development and growth of that organization over a lengthy period of time. It must be concluded that there is some real value to be found in his approach.

Flood (1993: 27–28) acknowledges this in identifying five strengths to Crosby's work. Summarizing, he sees these as:

■ clarity;
■ recognition of worker participation;
■ rejection of a tangible quality problem, acceptance of the idea of solutions;
■ Crosby's metaphors – 'vaccine' and 'maturity';
■ Crosby's motivational style.

Flood also criticizes perceived weaknesses, however. He sees:

■ a danger of misdirected effort from 'blaming' workers;
■ emphasis on marketing more than recognition of barriers;
■ failure of the management and goal orientation of the fourteen-step programme to 'free workers from externally generated goals';
■ the potential for 'zero defects' to be interpreted as zero risk;
■ ineffectiveness in coercive power structures.

Looking at the strengths, it could be argued that clarity and simplicity of approach are not necessarily beneficial in dealing with increasingly complex problems. It must be the case that the adequacy of any problem-solving tool must be measured in terms of its suitability for the problem being addressed. This must be considered when selecting an approach.

The value of the second strength, worker participation, cannot be denied. First, the people who do the work may be the only people who can recognize the roots of a particular problem. Second, their involvement implies easier acceptance of ownership of the programme and the solutions.

The conception that all quality issues can be resolved is very useful in provoking ideal goal seeking behaviour among the participants in the situation. Bank (1992: 23) compares this to the British ice-skaters Jayne Torvill and Christopher Dean aiming for perfect scores even though

these may not be attainable. He cites Thomas J. Watson, founder of IBM, as saying, 'It's better to aim at perfection and miss than it is to aim at imperfection and hit it.' Acceptance that certain problems cannot be solved could be seen as reinforcing behaviour and attitudes which ensure that they never will be.

Creativity and leadership must be seen as essential strands in quality improvement. However, while some writers see great strength in Crosby's approach to this, there is also, perhaps, inherent danger. The 'charismatic' or 'evangelical' style adopted by Crosby has been criticized by Juran, the subject of Chapter 9. Crosby, cited by Bank (1992: 76), says, 'Dr. Juran seems to think I am a charlatan and hasn't missed many opportunities to say that over the years.' The founding charge here seems really to be one of a lack of substantial underpinning to Crosby's approach, perhaps reflecting other comments about promotion 'through slogans and too often full of platitudes'.

There can be no doubt that many of the most sustained management theories and approaches through the years have been well marketed, yet when examined by others have been demonstrated to have either theoretical or methodological weaknesses. This is almost inevitably true. Theories validated within one paradigm can probably always be disputed from within another. Similarly, it is often said that there is no such thing as bad publicity, and that, to quote Oscar Wilde in *The Picture of Dorian Gray*, 'There is only one thing in the world worse than being talked about, and that is not being talked about.'

That Crosby is an effective self-publicist cannot be denied. However, this does not necessarily detract from the value of what he is saying. Perhaps the comments of another great self-publicist, Winston Churchill, Britain's Second World War prime minister, should be noted. Churchill is known to have annotated his speeches with what might be seen as 'stage directions'. One of his most well known is the reported admonition in the margin of a speech, 'Weak point – SHOUT!'

Regarding the weaknesses, it is arguable whether the interpretation of Crosby as blaming the workers is reasonable. Bendell (1989), for example, states that Crosby 'does not believe that workers should take prime responsibility for poor quality; the reality, he says, is that you have to get management straight first'. Bendell further suggests that in the Crosby approach, 'management sets the tone on quality and workers follow . . . the initiative comes from the top'. Thus it could be argued that rather than creating a 'blame the workers' culture, the Crosby approach is a form of empowerment, led by the management. The difficulty rests in how the messages are translated by the managers in the middle – and that to a large extent depends upon how they receive them and how competent they are to retransmit them.

The issue of platitudes and lack of substance has already been largely addressed and goal orientation comes into focus. It is clear that Crosby considers only one goal for the organization, and that is 'zero defects'. Flood's criticism here is much better founded. The external setting of goals by the management is far from empowering or emancipatory and neglects to address workers' perception of their own values and needs. It must be recognized, however, that the requirement for quality is being driven from the environment of the organization. If survival of the organization is to be achieved, then quality products which 'conform to requirements' are an essential feature.

Misinterpretation of 'zero defects' as meaning the avoidance of risk is another reasonable point. There will always be an element of risk involved in a change of behaviour or process. To

overcome the danger of risk aversion, management must develop a cultural environment where risks can be calculated and minimized, and where learning from mistakes is encouraged, perhaps incorporating ideas of the 'learning organization' (Senge, 1990; see Chapter 19 of this book).

Flood's strongest criticism is of the assumption that people will work in an open and conciliatory manner. He makes it clear that in a political or coercive context, this will not apply. Many management writers agree that an element of politics and coercion is present in most organizations, whether or not this is explicit. There will always be a dominant group or sub-group, and it is suggested that having a fully open and conciliatory atmosphere is an ideal rather than an easily achievable objective.

5.5 CRITICAL REVIEW

Overall, the foundation of Crosby's approach can be seen in two elements. First, his extensive professional background in quality will have provided the quantitative bias to his method; second, his reportedly charismatic personality will have provided the qualitative aspects.

The general value of measurement in establishing standards and objectives for quality is readily recognizable, while the principles are transferable between organizations and people. The value of the qualitative issues are much harder to evaluate and transfer. The majority of managers would not perhaps consider themselves to be 'charismatic' leaders, an epithet more readily used in respect of others than it is of ourselves. A wholehearted commitment to quality achievement throughout the organization is undoubtedly required; what is questionable is whether the exhortative, inspirational slogans and platitudes will work in all circumstances and for all managers.

It has to be concluded that the process and quantitative aspects of Crosby's programme – a word which in itself implies a discrete activity rather than ongoing management behaviour – may be readily transferable. However, the management style adopted will have to reflect the needs, values and personalities of those involved in the programme.

Similar comments can be applied to other aspects of the approach. For example, while encouraging reward, Crosby suggests that this should not be monetary. It is perhaps the case that the reward, to be truly meaningful to the recipient, should reflect his or her needs and aspirations. For an individual whose focus is professional achievement, then public recognition of his or her contribution may be all the reward that is required. For an individual on low wages, perhaps seeking to reduce personal indebtedness or, in an extreme case, to pay for life-preserving medical treatment, a monetary reward may be precisely right.

Reflection is also necessary on the suitability of the approach for different industries. With his manufacturing background Crosby has developed an approach which reflects that it is essentially possible, in the manufacturing environment, to know when a defect-free product has been achieved. This is far more difficult in the service sector where definitions of the product are harder to generate and delivery is almost impossible to control. Certain aspects of service are relatively straightforward to quantify – for example, how many times the telephone rings before it is answered, or precisely what words of greeting are used (although there have been cases reported where the telephone was being answered too promptly, frightening the customers!). Other aspects are less susceptible to measurement and control – for example, tone of voice. The nature of many of these transactions is that the service is provided and

consumed instantly. While they can, to some extent, be designed and planned, their production is uncontrollable. They also depend on factors which are perhaps outside the ability of the organization to influence effectively. These factors include the expectations of the customer, his or her mood, the sort of day the customer has already experienced and the level of service he or she has received before. These factors cannot be known until after service has commenced.

Therefore Crosby's approach has to be marked with some cautions about its general applicability across a range of industries and cultures. What works very well for Philip Crosby at ITT, or for Lee Iacocca at Chrysler, may not work in a bank in Hong Kong, or on a North Sea oil production platform.

SUMMARY

This chapter has presented the work of Philip Crosby through a five-point critical framework. It has described his philosophy and its underpinning assumptions, outlined his principal methods, examined the successes and failures of the approach, and summarized these in a brief critical review. Readers may refer to Crosby's own works, particularly *Quality Is Free* (1979), to enhance and develop their own knowledge and understanding.

QUESTION

Discuss Crosby's assertion that 'There is no such thing as a quality problem.'