

Business Practices for Surveyors

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SUMMARY

The world is changing. We are all very aware of this, and that the rate of change is increasing. These changes impact on surveying businesses as least as much as they impact on other businesses. In many cases, however, the education and training of surveyors (of every discipline) gives a good deal of time to technological developments and their impacts, but rather less time to the changing challenges of management.

A particular strand of the change is that public expectations of professionals are growing. Ethical and other priorities can be particularly tangled for professionals such as surveyors, with their sense of duty being split in a number of different directions – Allred (1999) suggests that professionals are subject to (often conflicting) standards of their own, their company, their profession, and the public.

In light of these increasing challenges, FIG (the International Federation of Surveyors) has collated practical guidance for surveyors, to provide reference material covering some of the business challenges they are likely to face. This paper outlines some of the key areas for such challenges, and gives an overview of responses that need to be made by survey firms if they are to flourish. It draws heavily on an FIG Publication entitled Business Matters for Professionals (FIG, 2002).

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1. THE BUSINESS ENVIRONMENT

Before examining the specific management issues being faced by surveyors, we should first stand back and reflect on the world in which we live and operate. What are the main developments underway? The classic management school approach to such a question is to undertake a STEPE analysis. The themes summarised below draw heavily on such an analysis completed by the author a few years ago (Greenway, 1997).

- Politically, trade is becoming increasingly global. This alters dramatically the pool of work and competition with which any survey firm is faced. It also draws into sharper relief the need to be clear what fresh challenges, or different cultures, exist when working across international boundaries (or being faced in your home market by overseas competitors). Managers increasingly need to understand transnational differences in people, cultures and law.
- Another political theme is ‘a transformation in the very nature of public services’ (David Rhind’s words from the 1996-2001 Ordnance Survey of Great Britain’s Strategic Plan). The public sector is now generally there to undertake activity that cannot appropriately be undertaken by the private sector. Such a shift of political emphasis has cross-party support in many parts of the world, and again leads to a changed style of working and competing amongst the private sector firms bidding for what historically had been public sector work, creating further management challenges.
- Economically, control is increasingly becoming centralised into the hands of a few mega-corporations. To complement these very large organisations, other firms tend to maintain a small size and a flexibility of operations, adopting niche positions. The need for all-round management and business skills is therefore brought into stark relief for those surveyors running small companies, where they may often be unsupported by business experts, and where professional consultancy advice may be beyond budgetary reach.
- Socially, our expectations as customers have changed radically. We all now expect a product or service which meets our requirements precisely, rather than making do with something standard. This change has been facilitated by developing technology, particularly in the computer field. We expect to specify exactly what we want – and then for it to be delivered, on time and at a fixed price. The service elements are being specified as closely as the product elements (indeed, it is very often hard to delineate where one starts and the other ends). This increase in expectations is applied particularly to professional service providers, with advisers increasingly expected to be fully accountable (including financially) for their advice and its consequences. This trend in customer expectations and in

technological developments is also leading the intertwining of different professions, meaning that a professional is expected to have a base knowledge of a number of other professions. A further challenge is that we all expect instant decisions, as email and other tools allow instant communication.

- Tied in with this social change is the growth of pressure groups, who can add significantly to the complexity of the balances to be struck by professionals – a key differentiation of professionals from others is a professional's ability (indeed, duty) to consider the needs of wider society as well as those of the client, and to be able to deal with this balance successfully. For surveyors, this balance becomes particularly important with the growth of the environmental agenda.
- Many governments are becoming increasingly intolerant of self-regulation by professionals, in the face of continuing scandals around the world, and are looking to detailed regulations to guard against foul play. This again makes it harder, as a professional running a small firm, to maintain the knowledge and procedures required to operate both legally and professionally.
- Perhaps the most profound changes in much of the surveying community are technological. In the 1950s, the operation of a theodolite was the work of a professional, served by several porters and bookers. Compare that with the present day, where the push of a button will provide a position accurate to millimetres, where a theodolite will track a target and give continuous readings, where deformation monitoring equipment will transmit results down a telephone line without the presence of an operator being required at all. Such rapid change requires professionals to keep up with the developments, on an ongoing basis, if they are to be used to best effect for clients and the economy. A professional must know enough of what is happening inside any 'black box' to know whether he or she should have confidence in the results presented.

We must therefore conclude that the nature of a surveyor's work, both technical and managerial, has changed fundamentally, with the pressures and expectations increasing relentlessly.

2. THE DUAL ROLE OF PROFESSIONAL AND BUSINESS MANAGER

All of the above places additional pressure on those professional surveyors who are often required to balance the parallel roles of being a professional, a technical expert and a businessman. None of these roles can be ignored, and the abilities of an individual in them will continually be challenged.

At the heart of it all, I believe, is the lure of the profession to students. There is real professional interest in measuring the size of the earth, determining value, or making a land market work. As it was put to me at a conference some years ago, many of us entered the profession for 'landrovers and sunsets' – my particular experience was on a university field

course on the hills around Edinburgh. This means that many of us want to stay outdoors as far into our careers as possible. Looking back to my MSc course in the late 1980s, there was an emphasis on field work, on how to use instrumentation (as well as understanding the fundamental principles on which it operated) and very little on the art of management. I guess that this was the rule rather than the exception. As we have seen above, however, the role of the surveyor has changed dramatically.

The vocation felt by many entrants to the surveying profession means that most of us will, in most cases, have a personal interest in the content of our work, and a passion to do it to the best of our ability. Business challenges, however, are also a necessary part of an increasing number of our working lives. Professionals will often have had limited training or experience in the business aspects of their work, and may well have limited interest in them – they will often be viewed as a means to an end. There is little that can be provided in an entirely classroom context that can prepare a young practising surveyor for suddenly finding him- or herself with a responsibility for running a part of a firm's operation.

The lack of emphasis on management training in our degree courses carries through into the lack of formal management development policies during our careers (despite the best intentions of CPD, it still tends to be concentrated on technical development). Our first promotions were achieved through technical prowess; we ended up in managerial positions with little consideration of whether we had an aptitude for it. We tried to stay outdoors and therefore didn't give enough emphasis to staff and business management. I generalise, of course!

Nowadays, many professional surveyors manage production tasks, visiting sites at the beginning to agree in outline the approach to be used, and when difficulties are encountered (in a similar way to a consulting engineer). The majority of their time will be spent on project management tasks, building client relationships; and marketing the profession to potential clients, guarding the role of the surveyor in the face of other professions who will claim that advances in instrumentation and computers mean that professionals are no longer required for the work. Educational establishments will have to match their courses to these requirements: NVQ-type courses for the technicians; a professional qualification which will contain a mix of survey principles and management techniques for the professional surveyors. And, with technology advancing so rapidly, a single block of training at the start of a surveyor's career will not equip him or her for life: modular training will be a necessity.

These very real dual challenges, and the appropriate responses to them, must, of course, be fitted into an organisational and personal agenda (and budget) which has severe constraints in terms of time and resources available, especially for those small firms occupying niche positions. Whatever the inclination of the professional, the challenges have to be addressed if medium-term viability (and sanity!) is to be possible. How can professionals and their professional associations support themselves in this situation? FIG has over the past years set out to support surveyors – and their national professional bodies – in responding effectively to these challenges.

Technological and social changes require changes in business and in management. It is generally agreed that the rate of external change is increasing. The changes impact on surveying businesses as much as they do on other businesses.

A key change for survey businesses in recent years is that members of the public have an increasingly high expectation of professional service providers. As the Institute of Management's Code of Conduct (quoted in Davies, 1997) puts it: 'A professional is someone who justifiably claims to provide an expert service of value to society, and who accepts the duties... including... honouring the special trust reposed by clients, employers, colleagues, and the general public'. Survey companies' stakeholders are increasingly demanding, putting a greater emphasis on the professional's ability and duty to consider the needs of wider society as well as of the client, and to be able to deal with this balance successfully. Allred (1999), however, suggests that professionals struggle to rationalise the (often conflicting) standards of their own, their company, their profession, and the public.

FIG, as a Federation made up of more than 250,000 practising professional surveyors, has over the years recognised and responded to these challenges and pressures. Work has included the publication of guidance on ethical principles and codes of conduct (FIG, 1998-1) and quality (FIG, 1998-2). In related work, a paper on 'Management Matters' (Hoogsteden et al, 1998) was presented at the 1998 FIG Congress, as the output from an FIG Working Group into the subject. During the period 1998-2002, a Working Group of FIG Commission 1 (Professional Standards and Practice) took the earlier work, along with that published from other sources, and synthesised it into a 'guide' for practising professionals on the issues that they are likely to face in business, and therefore need to be prepared to face. The Guide was published during 2002 (FIG, 2002); this paper highlights key themes and topics within the Guide, whilst also being designed to provide in itself a brief 'business management kit' for the professional.

What if professionals are unwilling to adapt to the changing business environment? The possible consequences are spelled out very clearly by Professor Molenaar, the Rector of ITC in the Netherlands, in the October 2001 edition of GIM International: 'Today's surveyor has become a technologist... without a clear understanding of real world problems... As a result, the surveyor will lose his role in society... Surveyors need to... pivot from a preoccupation with technology to face the problems which today confront society in general and geo-information users in particular.'

3. RECOGNISING THE BUSINESS CONTEXT

The work of shaping a business to its environment starts with the most fundamental question – why does the business exist: to make a profit; to provide a social service; or for some other reason. Until this question is answered, no further planning can take place.

But this question cannot be answered in isolation: the interests of the business will at times come into conflict with various social interests. All of these interests must be analysed and taken into account in business decisions. Since all business activity takes place within a social

environment, the business is dependent upon society. Correspondingly, society makes demands on business activity. The academics have come up with the term 'stakeholder' for those external entities which the business needs to take into account. The primary stakeholders for most businesses are its customers, its staff, its suppliers, its investors and its competitors. These groups directly determine a business's short-term success or failure. However, particularly for professional businesses, suitably taking into account the interests of secondary groups is of crucial importance for the long-term survival of a business. These groups include environmental protection associations, trades unions, the press and the media, and professional and regulatory associations.

Both the primary and secondary group interests must be taken into account in the basic organisation of a business. No business survives in the long run if it fails to establish a harmonious relationship with these group interests, and does not bear in mind these interests when formulating its business strategy.

In light of the above, it is vital to consider State and social interests at an early stage of business planning, since they will always limit the autonomy of a business and must therefore be taken into account by the business in a suitable way. The extent to which this is true for any group or issue depends on the relative importance of the interests: State interests must always be taken into account, but social interests need be considered only when they have a certain strength and significance. In addition, since State and social interests may change over the course of time, they must be analysed and taken into account at regular intervals: State interests may disappear, and the significance of social interests may change with the passage of time. But this analysis must always take place in light of the business's reason for existence, which must always have a primary place in decision making.

4. BUSINESS PLANNING

A professional business has within it a portfolio formed from the skills, knowledge and capabilities of its members. This mix includes not only special professional skills and formal procedures, but also intangible assets such as the business's presence and relationships in key sectors, its reputation with clients or suppliers, and its 'culture' or 'ways things are done'. As has been discussed in the previous section, the match or otherwise of this mix of capabilities to the market and the wider environment in which the business operates determines its success or failure.

Business planning is the art and practice of examining the current fit of a business's capabilities to the environment and adapting this as necessary. Owners and managers need to ensure that adequate, shared intentions exist to keep the fit in the future. This may mean deploying existing capabilities differently, and/or developing new ones. Planning is as crucial in the public sector as in the private sector – indeed, it can be argued that in some ways it is more crucial in the public sector, as such organisations are likely to have spent less time on such issues over the years. The work by Her Majesty's Treasury in the UK (Her Majesty's Treasury 2000-1 and 2000-2) summarises some of the key issues in planning in the public sector.

We can consider planning for an organisation as addressing four stages and generating two distinct outputs:

- Corporate and Strategic planning leading to a Strategic Plan; and
- Operational and Business planning leading to an Operating Plan.

The Strategic Plan may have a life of up to three years, whereas a new Operating Plan will be needed each year.

In successful planning and monitoring, however, systems alone cannot deliver high performance: they need to be embedded in the organisation's culture and to involve everyone. Leaders must be responsible for setting the high level, bold aspiration for the organisation and relentlessly communicating it to staff. Managers must be involved in regular and rigorous review of performance against expectations. Staff must be rewarded in relation to the contribution they make to achieving the organisation's objectives. And customer consultation and feedback provides a vital 'reality check' on whether the organisation is delivering the services that matter to them, to a standard that they expect. Only with such embedding will a business properly be linked to the expectations on it, and properly focus its efforts on what is important.

4.1 Strategic Planning

A Strategic Plan will generally include:

- A **Mission Statement** – this statement should, in a small number of words, clearly identify why the organisation exists and is the sole criterion by which the organisation's success should be judged. Some examples can be found in Her Majesty's Treasury 2000-2.
- **Organisational Values** – these express how the organisation will conduct business; they address such matters as ethos, culture, code of ethics, standards of behaviour, social justice, environmental issues, social responsibilities etc.
- **Organisational Vision** – an Organisational Vision of where the organisation wants to be in a given time frame needs to be agreed. An appropriate time frame is of the order of five years. The vision must set a level of performance that will stretch and motivate.
- **Organisational Goals** – from the Vision, the Goals need to be determined. Goals are aspirations of what the organisation wishes to achieve. Again, they must set a level of performance that will stretch and motivate.
- **Strategies** – these are means not ends, and set out how the goals will be achieved.
- **Objectives** – these are determined from the strategies adopted and are specific statements of the who, what and when. Being specific, they allow the creation of clear targets against which to monitor organisational progress.

To conclude such statements and targets, it is vital that all key managers in the business are included and can agree to the results. Some of the tools available to assist in developing these elements are:

- **STEPE Analysis** which can be used to help map the (S) Social (T) Technological (E) Economic (P) Political and (E) Environmental influences on the organisation and enables

an assessment to be made of their likely impact on the business.

- **SWOT Analysis** which enables the performance of the organisation to be assessed in terms of both internal factors, that is its (S) strengths and (W) weaknesses; and externally in terms of the (O) opportunities available/open to it and the (T) threats confronting it.
- **Portfolio Analysis** can be helpful, particularly for evaluating and reviewing product and service portfolios.

The result of the use of these (and other) tools should be a Strategic Plan for the organisation, including the elements listed earlier in this section.

4.2 Operational Planning

The process of taking the creative ideas which emerge during the planning process and turning these into effective operational plans also requires careful thought, particularly to minimise any lack of integration. Broadly speaking, the parts which need linking together include;

- *'the strategy'* for the organisation;
- *'the budget'* for the organisation;
- the *'plan'* for the organisation; and
- the *'performance appraisal and rewards'* system.

A key component in the creation of an effective Operating Plan is a method of translating general statements of intent (from the Strategic Plan) into specific objectives and actions. Whether at the level of objectives for the organisation or for individuals, it is important to ensure that clear measures of success exist, with clear lines of accountability. It can be useful to review objectives against the SMART (Specific, Measurable, Action oriented, Resourced, Timed) framework.

The result of this discussion and testing will be a list of specific, operational objectives, with responsibility for each one assigned to an individual, named manager. These form one heart of the Operating Plan. The second heart is the annual budget, appropriately subdivided to work areas, which allocates the resource needed for completion of the objectives. Iteration will be needed to ensure compatibility between targets and finances, both prior to the start of the plan period and also during the year.

4.3 Measuring performance

The time and effort required to monitor performance against plans is probably the area where most planning processes have the greatest difficulty. All too often, those responsible for planning fail to recognise the amount of time and energy which is required to establish processes and procedures to monitor and review plans on a regular basis. It is vital that well-established processes are documented and time set aside to review and update the plans.

It is often said that 'what gets measured gets done' and 'if you can't measure it, you can't plan it'. Clear measures are essential in monitoring progress against the plan. Targets, however, also

have the potential to confuse – it is vital to have a manageable number of clear, concise targets which are regularly monitored. Two frameworks which will be useful in this area are:

- **The Balanced Scorecard** (Kaplan and Norton, 1996) has become fashionable in recent years. This framework emphasises the need to ensure that adequate attention is given to factors beyond purely financial measures, by having measures which focus on people, systems and the market. Her Majesty's Treasury 2000-2 describes the implementation of a balanced scorecard in a part of the UK Ministry of Defence.
- **The Business Excellence Model** developed by the European Foundation for Quality Management (EFQM). The purpose of this model is to ensure that a consistent measurement methodology is utilised. It also enables comparative benchmarking to take place. Further information on the model is available from www.efqm.org

In addition to monitoring progress against objectives (and adjusting business activity accordingly), the business will need robust accounting systems to provide the financial accounts required by auditors and the management accounts needed within the business.

5. QUALITY AND CUSTOMER SERVICE

For the purposes of this paper, quality can usefully be defined as:

- Conformance to requirements; or
- Meeting agreed client requirements and avoiding problems and errors while doing so.

In simple terms, there is a need to 'get it right first time, every time' if the business is to prosper.

The successful business gives priority to its customers. The concept of 'customers first', whether they be internal or external customers, is an ideal goal for all firms. Business must always bear in mind that quality is in the eye of the beholder (the customer). A quality service is therefore one that satisfies customers' needs.

It is not uncommon in service industries like surveying for the cost of achieving quality to be more than 30% of total revenue of a business. The cost of quality includes the costs of prevention, of inspection and of failure. The first step in reducing a business's cost of quality is to understand that quality costs are *not* created equal. Rather, they can be divided into three distinct categories:

- **Prevention Costs** – these can be regarded as an investment because preventing (as opposed to correcting) quality problems makes the firm much stronger over time.
- **Inspection/Correction Costs** – inspecting and checking other people's work is a role which virtually all managers and supervisors must fulfil each day. This is despite the fact that neither the inspector nor the inspected finds this aspect of his or her job gratifying.
- **Failure Costs** – mistakes due to lack of quality that turn up outside the firm, after a service is delivered to the customer, are costs that must be avoided. The firm is cast in the worst possible light when it fails to meet the customers' valid requirements.

A rule of thumb for comparing the relative costs of the three categories in the firm is the "1-

10-100 Rule”. For every dollar or hour the firm might spend on preventing a quality problem, it will spend 10 to inspect and correct the mistake after it occurs. If the failure goes unchecked or unnoticed until after the customer has received the service, the cost of rectifying the failure will probably be 100 times the cost that would have been incurred to *prevent* it from happening at all. Further information on cost of quality can be found in Parker (2000).

The secret to reducing Cost of Quality is clear: *invest in prevention* and ensure that everyone in the firm understands the true cost of quality. In addition, give people the practical tools they need to make the 1-10-100 work for, not against, the firm. Ultimately, the key goal of the firm and each of its members must be to do “*right things right*”.

A number of people from within the organisation and beyond have some input into the final product. The quality of the final product or service is only as good as the weakest link. If, for example, the obtaining of a piece of vital information was overlooked then a survey may be incorrect. This may result in complete failure of the job at a later stage or even repetition of some work, costing the organisation (or the client) an added amount. This type of failure may occur at any step in the processing of the job through the organisation. A key to overcoming this is for everyone in the organisation to know where they stand in the process. When a problem is identified that may affect quality then every employee, no matter where they stand in the organisation, must act to ensure that the chance of failure at a later stage is minimised or removed.

It is important for staff within a firm to make a commitment to customer service. An ideal way is to develop a customer service charter which incorporates services objectives and service commitment, followed by service goals, strategies and standards. Very simple mechanisms can be extremely effective, for instance a visitors’ book with space for comments, or a simple questionnaire to be included with invoices.

In summary, the implementation of quality customer service as part of the road to continuous business improvement can be considered in three stages.

- Stage 1: *Creating the Environment for Quality*
(creating a controlled and systematic way of doing business with quality aware and committed people).
- Stage 2: *Quality Improvement*
(seeking out ways to improve existing processes and reduce the cost of problems).
- Stage 3: *Continuous Business Improvement*
(achieving sustainable, continuous improvement of all processes, products and services through the creative involvement of all people).

In a competitive market place, it is rarely wise to stand still and give competitors the opportunity to race past you. Hence, it is worth remembering that quality is a journey not a

destination, and that it is an ongoing process that should never end. The FIG Charter for Quality (FIG 1998-2) is a useful source of reference as to areas in which a firm should be making commitments.

6. PROFESSIONAL ETHICS

Professional ethics can be defined as:

- 'What ought to be; the ideals of what is just, good and proper'
- 'Giving of one's best to ensure that clients' interests are properly cared for, but that in so doing the wider public interest is also recognised and respected.'

Why are ethics important to a surveying firm? At the most fundamental level, perhaps, they are important because companies (and individuals) with clear values, and who apply those values consistently, will be more successful than companies without such clarity. This is because they will not put themselves in positions which later become compromising and need time and effort to resolve. This assertion is supported by a number of studies.

If ethical decision-making is compatible with business success, and such decision-making requires consistent application of a defensible set of values, it is evident that every survey firm requires a clear set of values and procedures that ensure consistent application of them by every individual in the firm. Unsurprisingly, therefore, this area has been the subject of a variety of work by professional bodies. Most survey associations will have model guidelines for firms, which pay particular regard to national priorities and laws. FIG Publication No 17 (Statement of ethical principles and model code of professional conduct, FIG 1998-1) sets down four ethical principles:

- Integrity;
- Independence;
- Care and competence; and
- Duty.

These principles will need to be considered in relation to a number of roles of the surveyor:

- As an employer;
- As a supplier;
- As a professional adviser;
- As a member of a professional body;
- As a business practitioner; and
- As a manager of a range of resources.

As with issues covered earlier in this paper, it is vital that the owners and senior managers of the organisation all espouse similar priorities in this area, if a clear lead is to be given to staff and a clear message to customers and other interest groups.

There are, however, some pitfalls to be avoided when setting down a code of ethics and conduct:

- The emphasis must remain on providing frameworks which can guide actions – any attempt to provide a comprehensive list of do's and don'ts, covering every conceivable situation,

will fail as a situation not covered will arise!;

- Actions are much more significant in determining ethical culture than any code. The codes will not gain ownership unless the owners and directors of a business are seen to be living by them; and
- The codes must be carefully thought-out, with employees being involved in their development, rather than knee-jerk reactions to particular crises.

We can consider the application of a code by an individual member of staff in a particular set of circumstances as a filtering process – the code is more likely to tell the individual how not to act than it is to define how to act. There will be a number of filters at work. The relative importance of these filters is likely to vary around the world. It is therefore important that firms take full account, when drawing up a code, of the likely issues in the different regions in which they are likely to operate – bribery will be a far more real issue in some countries than others, for instance.

An individual will, in a particular set of circumstances, use the different filters to determine his or her course of action. The relative priority of the filters becomes crucial when the answers from the different filters conflict. In almost all cases, personal values will be the strongest filter. Given that many decisions will have to be taken by an individual without reference to colleagues, the owners and directors of a firm need to have confidence in how the individual will react. In an extreme case, if corporate and individual values are too greatly in conflict, the continued employment of the individual by the firm becomes a real issue, so this is an area which needs to be covered when recruiting staff: the firm will generally be (rightly) held to account for the actions of an individual member of staff.

A helpful way of testing the clarity of a code, and cross-checking it against an individual's decision-making process, is to discuss the issues in advance. A useful technique is to use examples as the basis for the discussion. A variety of examples have been created for this purpose; they should, for best effect, be tailored to the circumstances of the firm and the individuals in it, drawing on real experiences that people in the firm have encountered. FIG has created three dilemmas as part of its work; they produced a range of responses from professional surveyors around the world. They are reproduced here as a starting point in a firm's creation of such dilemmas:

- Whilst undertaking a site survey for a private sector client, it becomes apparent to you that the client intends to ignore potentially serious environmental impacts of the development of the site. You reflect on your obligations to your client and to the community. What do you do?
- As a partner in a firm of surveyors, you have successfully won a tender for some work in a country where bribes are considered a normal part of doing business. In your own country, bribes are illegal (or, at the very least, not accepted practice). Will you use bribes to get the project completed successfully?
- You have successfully tendered for a survey. Other work means that you cannot complete the work by the required date, so you subcontract the work to another surveyor who only charges you a small fraction of the fee you have agreed with the client. What do you charge

the client?

Further information on the dilemmas and responses can be found in Greenway (2000). This dialogic approach is not a luxury to be taken up by a firm if individuals are interested or if time permits – it is an essential part of running a firm, as essential as the continuing professional development of individuals' technical skills and technological knowledge.

7. OTHER ISSUES

The list of business issues to be considered does not end here – there is a wide variety of others. This section touches on a few of the other issues:

- Managing IT and Information: this is an area where technology is developing very rapidly and where a professional's knowledge is unlikely to have kept up. Employing an IT consultant is expensive – and dangerous, if the businessman does not have sufficient knowledge to be able to verify the advice received. The key message in this area is that IT must always be a means to an end, not an end in itself. Other key issues to bear in mind are:
 - Integration: how all of a company's IT can be integrated, so that the whole is greater than the sum of the parts;
 - Training: what staff training is required so that the systems can be used effectively, and so that the business does not use the systems erroneously;
 - Legal issues: copyright and data protection/ privacy are particularly important here;
 - Business cases: as in all areas, investment decisions must be made on solid business grounds, not on market hype; and
 - Means of development: should systems be developed in-house (with the costs and need for specialists that this brings) or outsourced (with the risks of being supplied systems that do not meet the business's needs).
- Governance: Any business must consider, at an early stage, how it wants to organise high-level decision-making and guardianship. Such arrangements must not be unduly top-heavy or restrictive. A variety of studies, however, have emphasised the need for accountability within a firm, providing the healthy tensions internally rather than in the public eye. Such accountability is generally created by a separation of duties between the managers of a company and its Board, which will often contain a majority of outsiders who can provide the external objectivity which can get lost in day-to-day business. Small businesses might dislike such formality, and may wish instead to have a small number of individuals who can act as a 'sounding board', providing an extra dimension to strategic decisions.
- Staff issues: the development and remuneration of staff has been mentioned in a number of sections of this paper. This is an issue which can vary greatly in essence and priority between countries and cultures. It is never, however, an issue that can be ignored – staff are the most vital asset of a company, and it is their actions which create corporate reputation (good or bad). Key issues include:
 - Ensuring at recruitment stage that potential employees will 'fit' with existing staff, provide the skills needed for the business to achieve its goals, and have similar ethical attitudes to those of the business;

- Providing sufficient, suitable training for each member of staff to deliver the skills needed for the tasks in hand, and to allow achievement of each individual's realistic aspirations for a career path. In the surveying community, this is often referred to as Continuing Professional Development (CPD), an area in which FIG has published guidance (FIG, 1996); and
- Setting out remuneration arrangements for staff which will motivate them and will ensure visible linkages between business success and individual reward. Such rewards will be significantly wider than simply monetary payment.
- Legal issues: these will vary significantly between countries but will include aspects such as health and safety, tax, liability, and insurance.

8. FINAL WORDS

The world of the surveyor (as of all occupations) is becoming increasingly busy and complex, with the additional challenges and risks of failure (in all its guises) that this complexity creates. In what has often been seen as a vocational profession, it is vital that the professionals running survey firms are able to take on both of the dual roles of professional and manager. Many texts and journals are available to provide targeted guidance on technical matters, but much less exists for the survey manager. After all, surveyors are used to living responsibly with technical 'errors and adjustments'; we as a profession have to become as adept at living responsibly with the inevitable 'errors and adjustments' in management and business matters.

FIG, as an international professional body, has recognised that it has a key role to play in this area, and has been attempting to stimulate debate and raise interest. It has created a Guide on 'Business Matters for Professionals' (FIG, 2002) to support professionals and professional associations. Business matters are not an optional extra for a business: they determine success or failure and must be treated with due seriousness at all stages in a business's life. As many of FIG's members as possible are therefore encouraged to use and promote the use of the Guide, whilst also submitting suggestions for its continuous improvement, so that it becomes a truly valuable resource for professional surveyors around the world.

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BIOGRAPHICAL NOTES

Iain Greenway holds an M.A. in Engineering from Cambridge University, an M.Sc. in Land Survey from University College London and an MBA from Cranfield University (including study at Macquarie University, Australia). Between 1986 and 1999 he worked for the Ordnance Survey of Great Britain. His positions during those years included geodetic and topographic survey, strategic planning and pricing, sales and marketing, as well as a number of management consultancy inputs in Swaziland and Lesotho and technical consultancies supporting land reform in eastern Europe. In 1999-2000 he worked in Her Majesty's Treasury on improving public sector productivity in the UK. Since the summer of 2000, Iain has been Deputy Director of Ordnance Survey Ireland, responsible for much of the day-to-day management of a national mapping agency undergoing profound changes in status, structure, processes and culture. Iain is a Chartered Surveyor (MRICS) and a member of the Chartered Institute of Marketing (MCIM). He is the head of the RICS delegation to FIG, and Chair of the FIG Standards Network. He is also a member of the Management and Editorial Boards of the journal Survey Review. He has published a range of articles and papers on geodetic surveys, business and management practices, sales and marketing, and standardisation.

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