



Advanced User Guide

Formulating an IT/eBusiness Strategy for SMEs

This guide is one of a series of "How To" Guides" produced by Enterprise Ireland to meet the needs of Irish companies, particularly our client base, the majority of whom are small to medium enterprises (SMEs) in manufacturing or internationally traded services.

They are designed for non-IT professionals charged with developing and/or implementing eBusiness/IT strategy in their companies. Hopefully they may also be of use to IT professionals.

These guides are only one of a range of eBusiness resources provided by Enterprise Ireland. Most of the other resources, can be accessed through our eBusiness webpages

www.openup.ie

Here you can access more guides and cases about eBusiness and related topics, details of solution providers, access to our free eBusiness e-zine and discussion forum, eBusiness events guide and links to interesting reports etc.

The funding for these guides was provided to Enterprise Ireland by "The Information Society Fund" which was established by Government to progress the objectives of the Government's Action Plan for the Information Society.

1 . Introduction

SMEs are making increasing use of computers, eBusiness and telecommunications, collectively referred to as ICT (Information and Communications Technology) to achieve one or more of the following three broad objectives: -

- Increased competitiveness. For example, to save on staff and other costs, to permit better informed management decisions based on accurate and timely data, to improve customer service through reduced stock-outs or by providing better and quicker information, faster turnaround time on orders etc,
- To provide particular capabilities specified by key customers.
- To achieve new sales, primarily over the Internet. This is outside the scope of this briefing note, which will focus on the previous two factors. Another document in this series covers eBusiness Strategy.

Customer demands are likely to keep escalating and at least some competitors are going to keep on investing in ICT (Information and Communications Technology). Hence, to remain competitive and retain customers, many SMEs are going to face a requirement to continuously improve their IT/eBusiness capability. This is particularly true of those subject to international competition or dealing with large customers.

It will be increasingly important for SMEs to make the right decisions about their ICT strategy because: -

- Not all computerisation projects repay their cost and some do not work at all.
- While technology is dropping in price, significant IT projects are still very expensive in terms of cash, time and the disruption they can cause.
- Once a company starts making substantial use of ICT, they become increasingly dependent on it. Should the computer systems fail for any reason, the consequences can be severe, far more severe than in the days, when they less dependent on these technologies.

Many SMEs manage their IT in an ad-hoc fashion with different departments involved in buying equipment as and when they need it. Each function may go through the same learning process and devote an excessive amount of management/staff buying, trouble shooting and installing equipment. The equipment installed may be incompatible with that used by other departments. It is far better to have an overall medium term strategy for the organisation as a whole.

However, the appropriate strategy is not always obvious. The available technologies and IT service providers are changing rapidly. The ways in which competitors, suppliers and customers use IT can all impact on a company's IT choices and these factors are also undergoing rapid change. The correct approach differs for each company depending on their own individual business needs, current methods of operating, IT skills and the resources available for ICT (eBusiness, IT systems etc).

Formulating an ICT strategy thus requires a thorough understanding of the company's internal and external environment as well as of the available technology. External experts can help with the technology but an SME's managers are the only people who really understand the company and to an extent its external environment. Enterprise Ireland clients who have gained significant benefits from ICT investment, have emphasised the key importance of close and informed involvement by business oriented members of the SME's senior management team. This document sets out to provide some background information for non-IT managers faced with the task of formulating an ICT strategy for their SME.

- Do formulate an overall IT and eBusiness strategy for the company as a whole. Don't operate in an ad hoc, fire fighting manner.
- Do review your plans and suppliers periodically.
- Do consult users and customers when formulating this plan.
- Do consider paying for independent external advice to formulate your strategy.
- Do check whether you are getting the full potential benefits from your existing system before deciding to buy a new one.
- Do check whether your existing systems and processes pose risks such as security breaches, loss of key data or obsolescence.
- Do factor the likely work disruption and demands on staff time, into your plan.
- Do base your ICT strategy on your own particular circumstances, including current and future business needs and opportunities.

- Do make sure business-oriented management have the final say in selecting and prioritising projects.
- Do try to avoid short-term solutions that inhibit later moves towards greater computerisation and greater integration internally and/or with your trading partners.
- Do consider the human factors.
- Do your homework thoroughly, including analysing existing processes, data and IT systems, before making any major investment decisions. .
- Do monitor what your competitors, suppliers and customers are doing on the ICT front.
- Do remember that the right strategy is no good without a lot of hard work, people management and sound project management.

2 . How to formulate your strategy

There are four broad ways of approaching ICT strategy. In practice a combination of these may prove most appropriate.

1. Responding to events such as customer demands, computer failures and approaches from salespeople as and when they arise. While companies should certainly be willing to change their strategy in response to external changes or to new insights and understanding gained by implementing ICT projects, we would not advocate a completely ad-hoc, "make it up as you go along" approach.
2. Hire external consultants, or use internal IT staff, who will glean the knowledge they need about your company by interviewing the relevant internal staff and will then present you with a nice bound report. If that is the approach you adopt, the rest of this briefing document may prove of some limited help in informing your discussions with the consultants.
3. Invite various potential IT suppliers to meet with you, examine your existing situation, suggest what you need and make a pitch as to why you should buy the solution from them.
4. Assemble a cross functional team of internal staff and managers, possibly assisted by one or more independent external experts, to formulate the strategy.

If pursuing option 4, the team should be picked so that between them they have a deep knowledge of the various factors that should influence your ICT strategy, namely your company's: -

- Overall business strategy and business environment, including your customer's wishes etc.
- Existing IT facilities, skills etc.
- Physical process and the types and quantities of information you process or could benefit from processing.
- The types of solutions that are feasible given the current state of Information Technology and the implications of the possible solutions in terms of up front and operating cost, lead time, staff resources required etc.
- The amount of resources available in terms of cash and staff and management time and the alternative uses to which they could be put, if they were not devoted to IT or eBusiness.

Realistically, your team is unlikely to have all this knowledge and will have to dig out the balance of it over the course of the strategy formulation exercise.

It can be very helpful if team members are informed about how IT and eBusiness can be applied and are familiar with the process by which it is planned to formulate the strategy. A training course on these topics will add cost and delays up-front but may prove very worthwhile in the longer term.

The assistance of someone who is competent at facilitating strategy formulation teams and experienced in the formulation of ICT strategy (ideally in companies of your size and nature) is also helpful. Some consultancy companies can, for a fee, offer a combined service of training, facilitation of workshops, analysis of your existing IT capabilities and advice about what is currently feasible, its likely costs and the names of suitable suppliers and will help you negotiate with these suppliers. For significant projects, this work can require many consultancy days with consequent cost.

If you are unwilling to pay consultants for comprehensive facilitation and training, some internal thinking about your needs, some home study about ICT (discussed in a later section) combined with even a one day workshop

with a business savvy IT expert who is not trying to sell you anything, may prove very useful, before talking to potential IT suppliers.

Ideally you should apply a structured approach to strategy formulation. Here is one possible set of steps to follow. Do bear in mind that in reality, strategy formulation, particularly in SMEs, is generally a lot messier and less structured than the steps below might suggest. You may not end up rigidly following these steps, but even if you do not, keeping them in the back of your mind may prove helpful.

While implementing these steps bear in mind that detailed consultation with those likely to be affected, whether inside the company or outside it, is vital. It is necessary both to ensure the best strategy and to maximise the likelihood of cooperation when the times comes to implement that strategy. Clear communication that creates neither unnecessary fears nor excessive expectations is also important.

Step 1. ICT Health Check

Identify if there are any aspects of your current ICT set up which poses serious risks to the company. Such threats might for example include being highly vulnerable to losing critical data, to fraud, or to viruses that could bring down the computer system etc. Some weaknesses may be sufficiently serious that they should be addressed before proceeding further with strategy formulation; others may be listed as priority issues for your strategy. An SME should have an ICT policy document, which clearly states what procedures and processes are in place to counteract threats to the company caused by IT systems. There should be procedures for business continuity, data protection and so on. All pertinent company personnel should be audited as to whether they have knowledge of and adhere to the company ICT policy. At this stage it is also worth reviewing whether you are making full use of the capabilities you already possess. Consultants familiar with Irish SMEs assure us that many of them do not do so. In some cases, making better use of existing systems may reduce or eliminate the need for new investment.

Step 2. Formulate your Business Strategy

Your ICT facilities are there to help you implement your business strategy. You thus need to be very clear on your overall business strategy, before deciding what ICT facilities you need. If not, consider deferring your ICT strategy until you are.

Bear in mind that the impact of eBusiness and IT may be one of the factors that you should consider when formulating your overall business strategy. For example, the increasing power and cost effectiveness of ICT may open up new business opportunities that would not have been feasible in the past. An obvious example of this may be selling over the web. A less obvious example would be sending invoices by electronic data interchange [EDI] to your customers. Equally, however, the way in which customers, suppliers or competitors are applying ICT may create new threats to which your business strategy must respond. It is however, only one of the many factors to be considered, so do take it into consideration, but not to the extent of ignoring the many other critical business issues.

Step 3. Identify Possible Opportunities for Improvement

Identify possible ICT projects that could contribute to your business strategy by for example, cutting costs, making more accurate or timely information available, speeding up order deliveries, reducing errors etc.

Step 4. Compare costs versus benefits for each possible project

While it is not easy to be very precise, you should attempt to estimate the true cost of each potential initiative, in terms of capital cost, operating cost, training, staff involvement, consultancy, consequential extra upgrades that will be required, ongoing technical support, license fees etc. These should be compared with the likely benefits, which should, in so far as possible be quantified.

In theory, a cost benefit analysis should give you a clear indication as to which projects should proceed. In practice, your analysis will indicate that some initiatives are definitely worth doing, others are non-starters but the justification for many will depend on which set of assumptions you use. At this stage, intuition and business judgment has to be applied.

Step 5. Prioritise

Most SMEs lack the money to implement all the projects that they would like. Even if there is a pot of money in the bank, staff and management often could not cope with implementing several significant projects at once, while also doing the “day job”.

Choices have to be made, not only about which projects to drop but also about the sequence in which they should be implemented. This is not just a question of doing the most important ones first, technical and other practical reasons may dictate that certain project must be completed before others can start.

Step 6. Plan your supporting actions

IT projects may require actions other than simply buying, configuring and installing hardware and software. Additional work may include for example recruiting, training or redeploying staff, changing physical process, running a marketing campaign for a new website, putting new disciplines and procedures in place and ensuring they are adhered to etc. Your overall plan has to take account of these.

Step 7. Set Times, budgets, responsibilities and Communicate

A strategy is only useful if it is implemented. The first step in implementation is a detailed plan. For each stage of the implementation process, including the “supporting actions” mentioned above set out: -

- Start and completion Date.
- Cash and staff time needed.
- The name of the manager responsible for making it happen.
- Risk Assessment and Risk Management Strategy.

In reality, each stage of the implementation process will be successfully completed if treated as a project and if proper and recognised project management practices are applied to each stage.

It is also important to communicate to people what you are trying to achieve and why.

3. Factors to consider

The following sections outline some of the issues to be considered when formulating your strategy.

Customer IT Demands

For some companies, meeting the specified electronic trading requirements of a small pool of key customers is a key, or indeed the main factor, determining their ICT strategy. If you are in this situation, do not let the focus on meeting the clients’ demands blind you to the possibility that additional capabilities may be worthwhile.

Many large companies already operate systems in which orders for parts needed to replenish stock or to meet planned production schedules are not placed by phone call or fax, but are sent electronically. They are generated, not by a human supervisor, but by an electronic control system that recognizes that stocks need to be topped up and alerts the supplier accordingly.

At present, such systems are mainly confined to transactions between large commercial companies and their larger suppliers. However, this is set to change and more and more customers will demand increasingly sophisticated capabilities from their suppliers. The facilities needed to handle electronic ordering by large customers can vary dramatically. It is important to be able to meet, not just the current requirements of your customers, but also their likely future requirements, over the planned life of your proposed new IT facilities. Hence, determining the likely future needs of current and potential customers should form part of the ICT strategy formulation process.

The Business Environment

Your ICT strategy should be influenced by an understanding of your company's changing business environment and its future strategy. Questions to consider include: -

- What are the current and future key determinants of profitability and success in your business? Can ICT help you to achieve these?
- Are there any trends likely to make your current way of operation ineffective? For example, greatly reduced order lead times, increasing product variety or a far larger number of smaller orders might pose serious problems for existing manual systems or older computer systems. So also could plans for significant growth or a greatly expanded dealer network
- Rather than just reacting to changes in your industry, is there an opportunity to benefit by proactively creating them? Could you, for example, use computers and eBusiness, possibly as part of an overall business process reengineering effort, to gain a competitive advantage by offering to handle far smaller batches or shorter lead times than your competitors can possibly manage. Would this, or other changes in the service you provide, allow you to increase your margins or gain extra business? VLM's case study describes how this Dublin company gained very substantial new business by developing the ability to efficiently handle large numbers of small orders.

Capabilities needed for online trading with key customers

The facilities needed to handle electronic ordering by customers can vary dramatically as shown in the following examples.

One large Irish customer posts orders for its smaller suppliers to a website. (It interacts in a more sophisticated way with larger suppliers). The small suppliers log on using their own individual password and access code and can read their order. The only ICT facilities needed to meet the specified demands of this customer are a basic PC with Internet access.

Dublin based Lake Communications*, on the other hand, faced far more stringent requirements from British Telecom (BT), one of its major customers. What BT wanted, and has now got, was a system that works as follows. When BT receives an order from one of its numerous small business or home office customers for a Lake product, the BT sales person enters it onto a computer. The order then passes electronically to Lake and from there, goes automatically to Lake's subcontract manufacturer and delivery company. This electronic message causes production schedules and delivery plans to be updated automatically in all of these companies. The product is built to order and delivered direct to the end user, without ever passing through a BT warehouse or shop. All of the parties involved can track the progress of any of the multitudinous individual orders placed each day. Solutions such as these not only require sophisticated Internet related technology to link the companies together, they also require powerful and expensive internal IT capabilities to manage all aspects of the business.

*Case studies on Lake and on other companies which implemented sophisticated systems at the behest of customers, are available on the EI eBusiness website (www.openup.ie)

Information Flows

Processes that are operationally critical and also information intensive are most likely to benefit from computerisation. Thus as part of your strategy formulation, examine the types of information flows in the company. Consider how much information of each type you handle, how time critical it is, how easy it would be to computerise, how important accuracy is, the extents to which computerisation could save staff time, reduce mistakes, speed up the generation of time critical information etc. These can vary by company.

Consider, for example, a machinery manufacturer that produces 10 expensive machines per week. There is little point in such a company investing significantly in a fully computerised system for recording orders for new

machines. The machines often involve an element of customisation, which will add to the complexity and thus cost of computerising the order entry system. With only 10 orders a week, the small amount of staff time saved is unlikely to justify the high cost of a computerisation project.

However, machines are generally made from different parts purchased from a multiplicity of suppliers and the parts used vary by model. Often hundreds of different parts can be involved and the parts vary by machine model. If even one small part is missing an entire expensive machine can't be shipped. Our machinery manufacturer may well find that computerising stock management and component ordering would repay the investment involved. If done correctly, it could simultaneously reduce stock outs and stock holding levels. It could also help management make better decisions about what delivery dates to promise each customer. Thus such a company should probably examine in reasonable detail the costs and benefits of a computerised stock management system.

Ensuring that customers receive the right spare part is also challenging given the large number of spares and the fact that the mix of parts used changes as product designs evolve over time. A later project might involve IT based systems to help dealers check which spare parts fit which machines and, if the dealer network had the necessary IT capabilities, facilities to allow them order the spares online.

On the other hand, a footwear manufacturer with a similar turnover to our equipment manufacturer faces somewhat different issues. They are likely to be selling a thousand times as many individual pairs of footwear as the equipment manufacturer sells machines. They will have many models of footwear and each will come in a range of sizes and sometimes colours. Making sure that each of the many shops they supply gets the model, colour and size of shoes they want and is subsequently invoiced at the right time for the correct amount of money, is a vital but information intensive task. Hence, for them, unlike the machinery manufacturer, computerising billing and order entry (ideally by having the shops place orders online) is an area that might well be worth examining.

Selecting the right Degree of Integration

When a company has a fully integrated IT system, any piece of information, such as a new order or a change in a customer's address only has to be keyed in once. It can be keyed in by any staff member, from any department, who has computer access. Thereafter, any other staff member will automatically see the updated version of the information next time they look up that particular piece of data.

Typically however, SMEs have a number of computer systems that are not fully integrated. Accounts Due, Despatch, Sales and Service Departments might, for example, all keep separate lists of the same customers' addresses. A customer could tell the Sales Department that their address had changed, but this might not lead to the updating of the other department's databases. As a result, the product and the subsequent invoice might be sent to the old address. In due course, a service engineer might also travel out to the wrong address. These problems could be overcome by having paper-based systems to ensure prompt manual updating of each computer systems every time relevant information was received. Such systems are generally not fully reliable, they absorb staff time and they increase the chances of errors in the updated information. Hence, all other things being equal, a fully integrated system is the most desirable option. Indeed, there is a general trend towards increasing levels of integration, both within organisations and, by Internet enabled links between organisations. However, full integration, though becoming easier, can be costly and cumbersome to set up and manage. For many companies a system that falls short of the technical ideal of full integration still makes the most business sense.

However, any short-term investment should, in so far as possible, be designed to facilitate, or at least not impede, a future move towards greater integration.

A decision not to opt for a fully integrated solution does not necessarily imply that all data transfer between the systems should involve manual re-keying. Compromise solutions are possible. These might, for example, involve some human intervention to ensure that the different computer systems cross-reference and update files every night. These compromise solutions are acceptable if they do not interfere with the daily operations such as backups and the company accepts that that certain information may be out of date for a considerable period of time until the update has been completed. If the latter is unacceptable, the company may need to examine real time integration of systems and the extra overhead that entails.

Decisions have to be made about which systems to integrate and the degree and method of integration. Factors that would tend to make full integration desirable include a need to transfer high volumes of information between systems, a need for very up to date information and/or serious consequences from having inaccurate information.

Cost/technical problems are often the reason for deciding to keep certain systems separate. While the technical experts can advise on these decisions, ultimately, as with many other aspects of IT, business people are likely to be faced with a decision on how much technical sophistication they want or can afford to pay for.

Legacy Systems

Most companies already have some computer systems in place. Any plans to invest in new facilities have to include decisions about the fate of the existing hardware and software. When this is retained and operated alongside new systems it is often referred to as a “legacy” system. Before deciding whether to invest in new systems a company needs to have a careful look at its existing systems. Some issues to consider are outlined below. (Note: Many companies rely heavily on the company that installed their original IT systems for ongoing maintenance, occasional customised changes and general computer advice. If this does not apply in your case, some of the comments below may not be fully relevant.)

- Are your existing computer systems functioning adequately? Will they continue to function adequately in the light of your changing business environment, e.g. shorter lead times, extra sales etc.?
- Do you have adequate security systems and back up for your data? What are the potential consequences of losing data or of having it get into the wrong hands?
- If you have an old system, is it possible that you might soon be unable to obtain spare parts or technical support? If so, you may shortly have to throw it out and need to carefully consider whether to do so before spending money on adding modules to it or on linking it to new systems.
- Would you face serious difficulty if the company that installed and now maintains your system went out of business? What precautions should you take now, to help you cope in such an eventuality? In this context, is the system adequately documented and do you have access to the source code?
- What is the true cost of running the system, including user and/or IT staff time spent dealing with problems, waiting for PCs to unfreeze, recreating lost data etc after system failures?
- Are you making full use of the capabilities of your existing systems? Some IT consultants claim that the majority of Irish SMEs significantly under use their systems. If you are one of this majority, some basic staff training, minor changes in your way of working, commissioning modules you paid for but have so far not used might achieve much of your medium term ICT objectives, without having to invest in new equipment or software.

If a company does decide to invest in new software, typically the choices facing them might include: -

- Adding to their existing software package by buying a new off-the-shelf module designed for it. Generally this will be purchased from the company that supplied the original system and, at least in theory, it should be easy to integrate it fully with that system.
- Retaining existing systems in certain functional areas and buying new and different systems for other parts of the organisation. As discussed earlier, these might be fully integrated with the existing systems, completely separate from them or some compromise in between. If opting for some patched up integration between new and old, be sure to seek clear answers from your IT vendor(s) about how robust and user friendly the systems will be and what problems the patched up link might cause in the future when, inevitably, you will want to computerise more functions.
- Throwing out all or most of the old systems and replacing them with an entire new system from a different supplier. This can be very expensive in terms of both cash and staff time, but provides the option of selecting the best possible system to meet your current and future needs, without being constrained by historic decisions. If companies do decide to adopt this approach, the company should undertake a proper selection process that takes cognizance of all the requirements of all the users within the company. Too often, companies spend a considerable budget on a new system that is unsuitable for all the business functions

- Replacing the existing system with a more modern and sophisticated system from the vendor that supplied the old system. Buying from the company's longstanding IT vendor will generally reduce the consultancy costs and staff time involved in deploying a new system. This is because the vendor is likely to be familiar with the company's way of working and with any custom modifications made to the old system and because they will possibly [not probably] have carefully designed their new systems to facilitate a changeover from their older systems. Therefore, as in the previous paragraph, the company should undertake a proper selection process that takes cognizance of all the requirements of all the users within the company. The selection should review the capabilities of other vendors first before deciding to replace the existing system with a new offering from the same vendor.

Reliability and Accuracy

No system is 100% reliable. More powerful systems, possibly including redundant (essentially spare) hardware, will reduce the level of breakdowns, but at a cost. This has to be balanced against the costs associated with ICT failures e.g. technical support, time wasted by user staff, operational problems such as missed delivery schedules and communication breakdowns with clients. Once again, this trade-off ultimately requires a business decision.

Other reliability and accuracy options now available to a company include using an Application Service Provider [ASP], where the ASP stores the system software and data on a special hosting site. Because the ASP does this for many companies, the hosting site would have considerable redundancy and enhanced backup facilities. The company tends to pay less in capital costs for a system provided by an ASP but would tend to pay considerably more in operating costs. The users normally connect to the ASP using a web browser in the same way as the user browses the Internet. Speed and continuity of access are an issue with the ASP option.

Factors that tend to justify additional spending to achieve higher reliability include high volumes of computer usage and dependence on the computer system for time-critical operational functions. For example, if you are using your computer to produce management accounts from paper records, it is merely a nuisance when the computer goes down for a day. However, a days computer "outage" could be disastrous for a company which relies on the computer each day to plan and print out the delivery schedule for its fleet of vans, or whose staff constantly use the computer to check on stock availability, before accepting orders.

As companies engage in a growing level of electronic interaction with clients, system failures have an increasing potential to damage credibility and goodwill. A customer who e-mails in an urgent order will not be very happy to discover, after the order fails to arrive when expected, that your network has been down all day. A client who cannot get your website to work, may try a competitor's site.

Once you start providing data electronically to clients, e.g. their order status, stock availability etc, it is essential not only that the system does not breakdown, but also that the data provided by it is accurate. Your staff may be familiar with the foibles of your systems and may know that certain types of information need to be double-checked manually before acting on it or passing it on to a client. However, that sort of safeguard no longer applies when the client can access the data directly.

Existing Physical Processes

An ICT project is not simply a question of buying hardware and software or even of the technical tasks involved in installing it. Computerised systems require that you observe certain disciplines, for example, that you handle the same type of transaction the same way each time. If your existing way of working does not fit with the system you are planning to buy, you have three broad choices: modify/configure the new system to your way of working, change the way you work or buy a different system. Generally, companies adopt a mixture of modifying the systems and changing their processes. The level of software configuration or process changes required can vary depending on the system selected and on the way in which the company works or plans to work in the future. Hence, existing processes will influence the choice of new system and need to be fully understood before you can make an informed choice.

As a first step, you need to clarify and document how tasks are currently performed. It is essential to describe how they are actually done, rather than how they are supposed to be done. The next step is to consider whether you

want to continue doing the work the same way in the future. Clarifying exactly how certain jobs are really done, changing these processes or modifying the software are all labour intensive tasks.

All of the above take a lot of time, both of consultants and of staff. However, while this may be a major headache at the time sound preparation will make the IT project run more smoothly. After completing an IT project, many companies subsequently acknowledge that the project, in effect, forced them to make improvements to their physical processes that they should have undertaken long ago.

Some computer projects are part of an overall business process reengineering exercise. These can involve substantial changes in methods of working, requiring a vast amount of work and leading to huge disruption. If successful, and this is not always the case, such projects can achieve huge benefits fully justifying the headaches involved in implementing them.

People Issues

Many companies have been unpleasantly surprised by the demands placed on the time of non-IT staff during the planning and implementation of IT projects. On a related topic, some experienced major setbacks due to the departure of key staff mid-project, or the loss of key staff from their external eBusiness consultants or providers. It is a fact of life that the experience gained by staff on major IT projects makes them much more attractive to other employers. Such indirect costs and problems need to be considered as part of the overall ICT strategy.

Significant IT projects can cause major changes inside an organisation, and in the way the organisation interacts with its trading partners. This can cause concern amongst the people involved both inside and outside the organisation. Occasionally, concern can lead to lack of cooperation or even positive resistance. Proper consultation with all those affected is a vital part of the planning process. Technically sub-optimal solutions or a more gradual approach than might otherwise be desired, may be necessary to secure cooperation. Sound change management techniques are essential during the planning and implementation phases. One pitfall to avoid is allowing the human relations aspects of change management to fall between two stools, with the IT Department or IT consultants on the one hand and the various functional line managers on the other, each assuming that the other side is addressing this critical issue.

The existing IT skills of the affected users need to be assessed and taken into account in drawing up a training plan.

The long term plans for staffing/managing the IT function also have to be considered. When your system is fairly basic, a rudimentary knowledge of computer systems possessed by a non-specialist employee will suffice to handle most problems. However, as the level of infrastructure increases, it may be necessary to employ a dedicated IT person to manage the database and/or the Internet and e-mail connections.

In addressing the question of IT staffing you need to consider two different levels of skill: on the one hand, day to day trouble shooting, training and minor improvements and on the other, long term strategic advice, selecting vendors and managing the relationship with them etc.

A compelling case can be made for outsourcing some part of your IT operation. Skills in the IT world are changing rapidly. As new software and computer systems are developed, IT personnel need to be trained on the new features to obtain the maximum benefit. IT involves multiple disciplines and an SME cannot generally afford to employ several different specialists. It may be cheaper in some cases to buy in the constantly updated skills of a specialist IT company than to have your own employees constantly retraining to keep up with the latest technology. Even at the basic day-to-day level, there is a big focus on the part of local IT companies to provide outsourced managed services to small businesses. As the price of hardware comes down to commodity levels, the local computer dealers are turning to services as a means of generating revenue.

Staff resistance and implementation workload, the cost (cash and staff time) of the training, the lead-time needed to get people up to speed and the level of disruption in the interim, could be severe enough to merit a less ambitious ICT strategy or a more gradually phased one, than the company might otherwise have opted for.

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are co-funded by the European
Regional Development fund.