

IT Procurement Handbook for SMEs

DAVID NICKSON



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Experienced in both sides of procurement, with extensive bid management expertise, the author has worked for a wide variety of organisations of all sizes. He has also acted as an independent advisor to a major energy supplier for an IT outsourcing procurement.

David has direct experience of SME IT procurement at the small end of the scale. His own and his wife's training business operates a small network including laptop and fixed location computers with a broadband WAN connection.

Foreword

Anyone can buy it: IT that is. This is definitely a fact: anyone can buy IT, but can anyone buy IT at the right quality, at the right time and at the right price? Probably not. The jargon alone is enough to put most people off. It was always considered that the jargon was created by the IT industry to keep the IT club elite, however, the speed of change can put most, but the dedicated, out of reach of full knowledge.

The basic procurement principles are the same; it is the consideration that is required for IT that is different.

During the early 1980s I was responsible for buying IT hardware and software for what was then a relatively large government organisation. There were far fewer supply options with large corporate suppliers, with heavyweight legal teams, dominating the market together with very few technical options. Most decisions were taken on purely technical grounds and price was much less of a consideration.

By the mid-1980s, however, the 'dumb terminals' running off of 'main-frames' were out and the personal computer started to take centre stage and 'clones' also started to appear. This was the beginning of 'low-cost' computers for the mass market, which naturally includes the small and medium enterprises (SMEs).

These days not only is the number of options available vast, but the breadth of the buyer's market is also huge. This has driven the supply market to push the boundaries on technical and price grounds. Buyers now range from large corporations to SMEs to the home user. A one-person business has as much right, and in fact need, as a large corporation.

This brings a requirement for you to understand your needs before you start to buy and to be able to evaluate the returns you get when you gather together the various technical and price options. Generally the large corporations and government organisations have the technical and commercial expertise to cope, although many still get it wrong. For the SME, IT procurement is likely to be a one-off or at best a very occasional purchase.

For relatively little money IT can transform any business but buying the wrong IT, which can include email, internet access, website building, word processing, accounting, stock control, ecommerce etc., can be crippling to an SME.

That is why SMEs need guidance in a no nonsense manner: this is just what David has achieved in this handbook aimed specifically at SMEs.

The handbook style allows you to concentrate on what you need to and will be all you need to guide you in making those business critical decisions.

If I were to leave you with a couple of thoughts it would be to concentrate on your business needs not your wants and to make sure that any IT system is there for you; you are not there for it (so do not be a hostage to the system). The final point was captured nicely by someone when speaking about a large enterprise software system who said 'it moulds like putty, but sets like concrete'.

Peter Ritson 2007

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Abbreviations

ATQ	Answer (ask) the question
ATTA	Average time to answer
BAFO	Best and final offer
BIOS	Basic input output system
CBT	Compute-based training
CD	Compact disc
CPU	Central processor unit
CRM	Customer resource management
CRT	Cathode ray tube
DPI	Dots per inch
DVD	Digital versatile disc
DVI	Digital visual interface
EPROM	Electronically programmable read only memory
FAST	Federation Against Software Theft
FTF	First time fixes
FUD	Fear, uncertainty and doubt
GB	Gigabyte
GHz	Gigahertz
HDD	Hard disk drive
ICT	Information and Communications Technology
IPR	Intellectual property rights
ISP	Internet service provider
ISPL	Information Services Procurement Library
ITIL	Information Technology Infrastructure Library
ITN	Invitation to negotiate
ITT	Invitation to tender

Abbreviations

KB	Kilobyte
LAN	Local area network
MB	Megabyte
MHz	Megahertz
MTTF	Mean time to fix
OGC	Office of Government Commerce
OHSAS	Occupational Health and Safety
OS	Operating system
PB	Petabyte
PDA	Personal digital assistant
PDCA	Plan, do, check, act
PQQ	Pre-qualification questionnaire
PSU	Power supply unit
QA	Quality assurance
RAM	Random access memory
RFI	Request for information
RFQ	Request for quotation
ROM	Read only memory
SaaS	Software as a service
SLA	Service level agreement
SME	Small and medium enterprise
T&Cs	Terms and conditions
TB	Terabyte
TCO	Total cost of ownership
TSF	Time service factor
VDU	Visual display unit
VGA	Video graphics array
WAN	Wide area network
WEEE	Waste Electrical and Electronic Equipment Directive
WWW	World Wide Web

Introduction

When you start writing a book with 'IT Procurement for SMEs' as the title, you have a great fear that making it interesting is going to be a challenge. This was a needless fear; the problem was limiting the scope to make the task achievable and the book light enough to pick up. The real problem starts with the scope of the SME (small and medium enterprises) market.



DEFINITION

SME. An SME is an organisation with less than 250 staff. This is subdivided between 'small' with up to 50 staff and 'medium' with 51 to 250 staff. The 'small' category is sometimes further partitioned to include a 'micro' category with up to nine people. SMEs account for over 99% of UK companies (DTI Small Business Service 2006). Indeed 70% of all UK businesses are single person or small partnerships and a further 7.5% were 10 people or less, so nearly 80% come into the 'S' category. There were estimated to be only 8,000 businesses with 250 or more people out of 4.4 million UK businesses. An SME 'blog' site reported that the SME market turnover represented £1.15 trillion in 2004, although they estimated that there were only 3 million businesses. Whoever you believe, this is a large market and if they only spend a few per cent on IT, then that is still a lot of money and a lot of procurement activity.

So the scope of the SME covers everything from one-person part-timers up to organisations with multiple sites, possibly international, with turnovers into the tens and even hundreds of millions of pounds. Unsurprisingly the type of work that these organisations undertake also covers an enormous range. At one end of the spectrum you might have somebody making bespoke craft items in their spare room, at the other an international consultancy in the finance market. Your local garage is an SME, your doctor, your solicitor, your builder, plumber, newsagent, employment agency, toy shop, engineering firm, optician, scaffolding supplier, nursery, window cleaner, dentist, flying school, boat builder, 24-hour shop...; the list is practically endless.

You will find SMEs in almost every market sector and geographical region. The only real thing that they have in common is that they are not very large. This provides one of the first limitations on the scope of this book. It is not possible to cover all of the applications and industries that an SME might want to use IT for, and no attempt to do this has been made.

The emphasis is on how to go about procuring IT in general, rather than industry-specific issues.

WHO IS THIS BOOK FOR?

This book is aimed squarely at anyone in an SME who is in any way involved in buying IT. For the 'S' end of the market this will probably include anyone in the organisation, as they will almost certainly be directly affected by what is purchased. At the larger 'M' end of the spectrum there are likely to be more specialist roles such as IT, finance, sales and so forth. Even here it will still be relevant to a surprisingly large fraction of the workforce. So if you work for an SME then this book is for you.



KEY POINT

At the time of writing it was estimated (PCG 2007) that over 73% of UK limited companies had no employees: they are one- or two-person businesses. For this reason the book sets out to cover their needs.

WHY HAS IT BEEN WRITTEN?

Although SMEs might use IT for a wide range of applications, many of these businesses are still new to IT, even in the 21st century. In 2006 Lloyds TSB Business reported that 10% of SMEs did not use email and a third did not use the internet as an information source. At that time a fifth of those who used IT did not have a band connection. Stephen Pegge of Lloyds TSB Business said of the survey:

Small firms have tended to limit their use technology to communicate and organise information, but have been slower to wake up to the opportunities these tools might present for purchasing, production and distribution. (Pegge 2006)

However, they are 'waking up' in increasing numbers, so SMEs are procuring IT at an ever-increasing rate.

Consequently there are a large number of SMEs out there who are looking for help with acquiring IT. This books sets out to help them.

HOW IT HAS BEEN WRITTEN?

To keep this book at a sensible length and to keep it focused and useable, the depth of coverage of some of the related subjects has been restricted. For example negotiation easily merits a book of its own. Where these

restrictions have been applied references are supplied to further sources of information. It is always going to be balancing act between completeness and usability. No apology is made for erring on the side of the fast read: if you are reading this book because you want help with buying IT, then you are almost certainly short of time.

Much use has been made of mini case studies and quotes from non-specialists who have real-world experience of IT procurement within SMEs. This serves both to bring the book alive and to prove to the reader that, whatever problems they may be having, others have gone before and lived to tell the tale. This is both a 'can do' and a 'how to' hands on book.



KEY POINT

One of the biggest challenges in writing this book is the variation in size of SMEs. The communications and political issues found in a 250-person business simply do not apply to a freelance writer. However, they can learn about larger or smaller organisations that they deal with from the examples and descriptions presented. This may help them in future buying and selling opportunities with such dissimilar SMEs.

WHAT IT DOES NOT INCLUDE

Readers should be aware that this is not meant to be a book about IT solutions for SMEs. The case studies that are included are there to illustrate points relating to procurements only. Those looking for pointers towards good IT strategies are advised to look elsewhere. Even the IT-specific chapter is only intended to provide pointers towards things to check when looking at contracts, scope of supply and so forth; again those looking for a primer on IT should look elsewhere; a good starting point is the references and further reading list.

HOW TO USE THIS BOOK

The book is designed for use in two ways: you can read Chapters 1 to 6 and get an overall understanding of how to go about procuring IT equipment; or you can just read Chapter 1, 'The Procurement Lifecycle', then dip in and out of particular chapters as required depending on where you are in the procurement or which related skill areas are relevant to your needs.

Chapter summaries

1. The Procurement Lifecycle

This chapter provides an overview of the IT procurement lifecycle from first requirement through to maintenance, refresh and replacement or decommissioning. A major goal is to provide the reader with an awareness

of what they may be taking on. This chapter can also serve as the starting point for the reader who wants to dip in and out as it summarises the complete procurement process.

2. Managing a Procurement

This chapter describes how to go about running procurements. We describe what sort of team structure, people and skills may be needed. Common problems are identified together with warning signs. We also explain how to act as an interface between the organisation and supplier and describe how and when to involve stakeholders and other interested parties, obtaining sign off and approval, and list other political issues to consider. The reader is provided with realistic views on how much effort is needed. We explain how to go about planning: what are the key issues and stages? The impact of a procurement on the organisation is also considered, for example, disruption, time needed to help specify needs, testing and so forth, together with mitigation strategies.

3. Needs and Business Cases

This chapter covers the first, vital, steps towards making sure you procure what you actually need. Getting a good deal on something that you do not need is not a good deal. It includes alternative approaches, for example for low-budget or one-person businesses and charities, and other special cases. The scope includes how to go about needs analysis, getting the right specialists involved, looking at options, internal sales skills and other related issues.

4. Risk and Procurement

For those new to IT procurement, getting a handle on the risks involved can be very helpful. This chapter looks at how to manage risk in a procurement, what to look out for and so forth. It also provides a brief introduction to risk management for background information. Specific examples of typical procurement risks and what to do about them are included.

5. Bid Documentation

This is another core chapter. A successful procurement needs to make sure that both the consumer and the supplier have a clear idea of what is required. At some point this will come down to documentation. This chapter looks at how to write the relevant documents, what is needed and how to organise matters. Examples and templates are provided that cover invitation to tender (ITT), pre-qualifiers, covering letters and feedback to suppliers (good versus bad) being precise. Thought is given to standard disclaimers, for example supplier meets bid costs, and the use of terms such as commercial in confidence, intellectual property and so forth.

6. Bid Evaluation

This chapter covers how to identify selection criteria (not just price), making evaluations and scoring models. A worked example using a spreadsheet

is provided to give readers a starting point for their own template. We also cover how and what to report on evaluations, supporting decision makers and advisers. Financial concerns such as lifecycle versus upfront costs (e.g. effect of software licences, leasing versus purchase and so forth) and total cost of ownership are also considered.

7. Quality Assurance

This chapter discusses how to go about applying quality assurance (QA) principles to procurements and explains why you may have to fit in with corporate QA of either your suppliers or clients and what to do about it.

8. IT-specific Issues

This chapter covers specific issues that relate to the IT element of a procurement, although specifically not a primer for IT solutions; for example bulk hardware procurement, operating systems, desktop applications, software licence considerations, solutions, maintenance and support, helpdesks, IT processes and outsourcing options (although not those relating to 'offshoring').

9. Suppliers

The ins and outs of dealing with suppliers, issuing documents to them, supplier meetings and briefings, questions, reference site visits, giving them feedback and being seen to be fair, are covered in this chapter.

10. Negotiation

This is a skills chapter providing an introduction to negotiation skills with an emphasis on win-win strategies and maintaining long-term supplier relationships. This includes some practical exercises that can be used for self-learning and internal training.

11. Legal Issues

This is very much a key points chapter and guide to when to seek help rather than a detailed treatise. It includes what to consider when seeking professional help. It does not give specific legal advice, but does cover the main things to look out for. These include licences, intellectual property, due diligence and so on.

1 The Procurement Lifecycle

The book hangs off this chapter: we define a typical IT procurement lifecycle from first requirement through to maintenance, refresh and replacement or decommission.

INTRODUCTION

A good place to start when considering procuring anything is to look at its lifecycle. Product lifecycles have long been used in manufacturing to plan for their effective support and production and have proved effective. Taking a similar approach for an IT procurement provides a useful tool for determining what needs to be done to achieve the best results. A major benefit of considering the lifecycle of anything you are going to buy, not just IT, is that it gives you the information needed to make a better buying decision. Buying something because its capital cost is the lowest can turn out to be a poor choice if it turns out to have the highest running costs.

Much of the logic of this book depends on understanding this lifecycle so it is recommended that whatever else you read in this book, you read this chapter before dipping into any of the subsequent material. Also anyone looking for a quick start guide to IT procurement will find it here.

LIFECYCLE

Figure 1.1 shows the author's version of a procurement lifecycle; others exist, but they follow similar basic steps. Not all procurement methods are based on this concept: some consider that the procurement is complete once the goods or services are delivered. This may be neater, but it does not encourage a broader of view of the process.

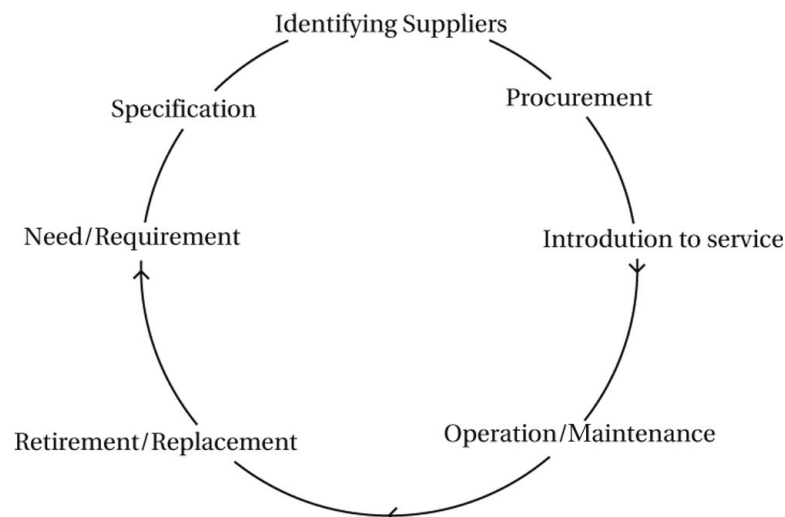


FIGURE 1.1 *Procurement lifecycle*

One may notice the similarity to the lifecycles that are found in many project management methods, for example PRINCE 2. This is not surprising as, when it comes down to it, buying something is a project. For that reason the author recommends that anyone struggling with a procurement takes a step back and applies basic project management skills and tools to the job in hand. If you can manage a project, you can run a procurement.

For those who look for formal methodologies it is worth noting that the Information Services Procurement Library (ISPL) includes IT services procurement concepts (see Op de Coul (2005) etc.). Although this is aimed at the larger end of the IT procurement spectrum, many of the principles will apply to the SME world and, where helpful, some further references are made to this. This methodology considers a procurement as complete once it passes into service: it does not view it as part of an ongoing product lifecycle, but does consider lifetime cost of ownership.



KEY POINT

Only when you consider this complete lifecycle can you come up with the total cost of ownership (TCO) for an IT (or any other) procurement. Consider the whole lifecycle, not just the obvious upfront costs, and do not forget to allow for training.

Needs and requirements (business)

Every procurement cycle starts with a need. This can simply be the marketing director wanting a new toy to play with; many a high-specification PC on a director's desk serves no function other than prestige. Usually it is driven by a real need to get something done: fulfil an order to a client, keep the accounts in order and so forth. During this phase the following points need to be taken into account:

- What do you want to do?
- Why do you want to do it?
- Where and when is it needed?
- What are the benefits of having it?
- What are the consequences of not having it?
- What can we afford?
- What is the cost justification for it?

There are various ways of going about this; anything from a chat at the coffee machine through to a formal needs analysis exercise using a formal methodology. The approach chosen should be consistent with the cost and risk involved. There is no need to spend all day in a committee when buying a new printer cartridge. On the other hand spending a significant

fraction of your annual turnover on a new set of applications that the firm's future will depend on should be taken seriously. The bottom line is that you must ask, and answer the questions listed above before you do anything else. Chapter 3 provides a range of approaches that can be adopted to help determine needs and define the business requirements that come from them.

It is at this stage that the first pass at the business case is created for non-trivial procurements (not that you should buy anything unless you need it). This comes down to the following:

- Do you need it?
- Can you afford it?
- Is it mandatory (i.e. you cannot continue without it)?
- Would the money be better spent on something else?
- Would doing nothing be a valid option?



KEY POINT

You should not need to be technical to define your business requirements; do not get bogged down in technology at this stage, and mistrust anyone who tells you that you should: they are probably after a fee.

Specification

The trick here is to specify what you want sufficiently well to be able to compare like with like and get what you actually want. Specifying in greater detail than required is a waste of effort and can restrict options that might be of benefit to you. However, the specification needs to be unambiguous and precise enough to enable a supplier to respond. For the non-IT-specialist this can seem like a real challenge. How do you specify what you want if you do not understand IT? The answer is that you should not need to understand IT to get what you require, but it helps. This is particularly true for SMEs that have little IT expertise in-house who are dealing with small specialist suppliers who have restricted business awareness.

Questions to ask at this stage include the following:

- Does the specification accurately reflect the business needs and requirements?
- Is the specification unambiguous?
- Is the specification complete with no yawning gaps?
- Is there enough detail for a supplier to quote against?
- Are the technical details correct (and do you have the expertise at hand to check)?
- Do you understand what you are asking for and why you want it?



KEY POINT

Unlike the previous stage, needs and requirements, some technical knowledge is needed here and it is important to identify whether you have this knowledge. If not then it may be difficult for you to specify what you want or evaluate what is being offered to you later on. You may need help from an independent expert.

Identifying suppliers

Before you buy anything you need to find out who can supply what you need. You also need to do some research about these potential suppliers to see whether you want to buy from them.

Some questions to consider for any potential supplier are as follows:

- Are they financially solvent: will they still be there when you need help in a few years time?
- Have they been in business for more than just a couple of years?
- Are they involved in litigation that might affect their viability or reputation?
- Do they have the expertise and support that you need to get things up and running?
- Are you able to assess this; if not, do you need professional help?
- Can the supplier help you further if you have problems?
- Can they supply you with verifiable references?
- Do you know anyone who has traded with them before? What do they say?

Procurement

This can be as simple as looking on the web or in a catalogue and placing an order. On the other hand it can mean conducting quite a complex procurement exercise involving requirement specifications, tender documents and assessment panels to inform the decision makers (admittedly this is likely to be true only for the larger end of the 'M' spectrum in SMEs).

The important thing is not to start until you have a good idea what you want to achieve (as before in specification). It is very easy to waste much effort and money, your own and the suppliers (who will not thank you for it), by starting a procurement before you are ready.

The essence now is to get the suppliers you have chosen to provide you with quotations that you can compare on a 'like with like' basis. To do this you will need to give the suppliers unambiguous instructions and information so that they are in no doubt as to what you want. The author speaks from extensive experience on the supplier's side where you can often see huge gaps and inconsistencies in the client's

documentation but can be limited by tact when trying to help them put it right. Effort spent on getting it right will pay dividends and can actually significantly shorten the process because of a reduced need for clarification.

To support the author's case, the following appeared in the review of *The Bid Manager's Handbook in Supply Chain Management* in June 2003 is included, 'it is clear that bidders are more organised than their clients when it comes to procurements'. To be fair, the suppliers are bidding all of the time and have amassed considerable experience, whereas many buyers are relatively inexperienced, especially in SMEs when it comes to buying IT.

Some questions that need answering are as follows:

- Is the timetable you have chosen for completing the procurement realistic?
- Are the suppliers in agreement with this?
- Is the documentation sufficiently comprehensive for the suppliers to respond?
- Have you briefed the suppliers on what you want them to do?
- Is it unambiguous, as far as you can tell?
- Have you decided how you will choose?
- Have you established what your decision criteria are?

A significant component of procurement is evaluation: at some point you have to choose. There will usually be two elements of this, qualitative and quantitative, examples of which are given in Table 1.1.

TABLE 1.1 *Example qualitative and quantitative elements of an evaluation*

Qualitative	Quantitative
Track record	Price
Existing supplier (good or bad)	Lifecycle cost
References	Support cost, training costs and so on
Credibility	Performance (e.g. resolution, number of users supported, disk capacity, central processor unit (CPU) performance, memory capacity etc.)
Easy to deal with	Delivery time or schedule
Flexibility	Warranty
	Financial security and guarantees

A key point at this stage is to consider how you are financing the deal: are you paying upfront for the capital elements or are you looking at leasing options or business loans, or even putting it on a credit card (see *Finance for IT Decision Makers: A Practical Handbook for Buyers, Sellers and Managers* by Blackstaff (2006)).

Introduction to service

Once the hardware and software have been delivered then it will need to be brought into use. This will usually involve one or all of the following:

- **Installation.** This may simply be the physical process of unpacking it and plugging it in through to complex configuration and integration with existing IT services.
- **Testing and acceptance.** This can range from a simple 'did it work when we plugged it in?' to a formal demonstration and sign-off procedure.
- **Training.** Whatever it is that you buy, you need to be able to use it, and this can often mean training. There are many sad stories where companies have purchased excellent technology only to have it fail because nobody knows how to use it effectively.
- **Support.** Once you have it up and running you need to make sure that you can keep it that way, or have appropriate plans to deal with it being unavailable whilst being repaired or restored to service.

Some questions to ask at this point are listed below:

- Is there space (either physical or IT capacity) ready for it?
- Are any required support services in place?
- Do the people who need to use it have the relevant skills?
- Has any required training been completed?
- How will it be tested and accepted as being as ordered?
- What is the process for rejecting defective goods?
- Are there any actions required to validate any warranties?

Operation and maintenance

This is usually the longest phase in the lifecycle, although with IT this can be cut short by the pace of change. It can also be the phase where the highest costs are incurred. IT equipment itself gets ever cheaper, although software manufacturers do their best with new releases to try and keep you upgrading through higher performance requirements, but that is a different story (see Chapter 9). So, the upfront cost of new equipment can create a false impression of affordability. A classic example is the inkjet printer. These are almost given away these days, but over a relatively short period of time can use up many times their purchase price in replacement ink cartridges. Competing laser printers might be many times the price upfront, but their running costs can be lower (toner can be cheaper than ink).

From the point of view of the procurement project this can be seen as being the end of the formal process, even if it is considered to be part of the overall lifecycle. Thus, no specific questions are needed here: running IT systems is outside the remit of this book and is the subject of many books in its own right.

Retirement and replacement

Nothing lasts forever. Things wear out and the requirement for their use can disappear. With IT equipment there is the added problem that the pace of technological change is so fast that what was the right decision at some point can become the wrong one within a relatively short time. The simplest case is when the equipment is worn out: you either replace it with another of the same or review what you need from scratch.

There can be significant costs associated with the disposal of old IT equipment: it can often be classed as hazardous waste. Ideally this will have been thought of when buying it in the first place, but legislation can change and it is worth checking before trying to dump it at the local tip. Note that on 1 January 2007 the UK implemented the Waste Electrical and Electronic Equipment (WEEE) Directive. In short this means that suppliers have the responsibility for disposing or recycling old electronic equipment and this includes IT systems. See BSI (2007) for further details and Chapter 11 on legal issues for more information.

Questions to consider during retirement or replacement include the following:

- Is the equipment, software or service still required?
- Has the equipment, software or service delivered what was needed?
- Is it simply a matter of buying an exact replacement?
- Would there be any benefit in adopting a different approach?
- Has the requirement changed since it was brought into service?
- Is better or cheaper technology now available?
- Do you need to restart the complete procurement process?



KEY POINT

When you retire or replace equipment or software it is a chance, and a reminder, to review what you actually need for the future. Just because you have done things this way for the last few years does not mean you should just carry on in the same way. What has changed?

LIFECYCLE CASE STUDIES

The following two case studies are intended to illustrate the lifecycle in real life for small to medium IT procurements. They are based on actual examples, although they have been simplified for reasons of brevity and clarity, and the narrative concentrates on the highlights to illustrate points in the cycle.

Lifecycle for a hardware item

This could be a printer, a standalone PC, a copying machine or similar item that is there to do a job and has a significant impact on any IT that already exists.

Need or requirement

A small craft and jewellery firm that shipped no more than a dozen items per day (average) included an A4 flyer with their returns policy for faulty or exchange goods and basic terms and conditions (T&Cs). They decided that there was an opportunity to print a mini brochure or advertisement for their range of goods on the back of this. They wanted to do this in colour. They already had a monotone laser printer that they used to print batches of the existing flyer. So they wanted a new printer that could print a colour image, to near photographic quality, on the back of the existing flyer. It must be able to cope with the Christmas peak and be in place by October (when the Christmas orders first started to come in). It was then July. They had answered the basic questions of this phase, although they had not actually done this on purpose. The business case was simple: there was a reasonable expectation that extra sales would outstrip the cost of the printer within a few months. In addition ongoing increased sales needed to be greater than the costs of additional consumables: a modest goal.

Specification

The firm consisted of the proprietors (a married couple who designed and engineered the basic items) and a couple of casual skilled workers. They got together at coffee time and came up with the following specification. It would need to be able to print at least 300 copies per month and deal with a Christmas peak of up to 1,000 pages in a couple of weeks. It should be cheap to buy, easy to use and compatible with their existing equipment, a single PC running MS Windows XP. It should also be cheap to run. It needed to be able to reproduce reasonable quality colour photographs (not exactly a quantitative specification, but they would know it when they saw the results).

Identifying suppliers

This was relatively easy. The owners were sufficiently knowledgeable about IT, having been long-time users of PCs, that they knew the major manufacturers by name and were aware of various retailers, both online and in-store, that stocked them. Some initial research on the web and a browse through a computer magazine helped them gain an idea of potential local and internet-based suppliers. As this is very much a commodity item it was easy to identify reputable dealers, manufacturers and suppliers.

Procurement

The difficulty here could have been choosing an item, which could have been a long drawn out affair. However, a pragmatic decision was taken to look at just three or four models in a local store, compare examples of their print out, then obtain prices for the printers and their consumables. There was little difference in pricing, as is expected with such an item, but support options varied considerably in terms of onsite repair versus return to base and so forth. Although a sheet of paper and a pencil would have been sufficient to make the comparison, the owners in fact set up a simple spreadsheet (see the example in Figure 6.1, Chapter 6). They chose manufacturer A, but decided to pay a little extra to purchase it from a local supplier in case they needed support: the local company was close enough to drop the device in for checking if needed and had already provided this service in the past.

Introduction to service

This was easy, for once plug and play went well: it was simply a matter of unpacking it, plugging it in and connecting it up to the PC with the cable supplied. The only training required was to find out how to load it with paper and to change the inkjet cartridges once they ran low. The company's 'IT expert' spent half an hour figuring it out then got everyone round for a demonstration, that way she was not going to be stuck with this job every time the warning light came on. She also showed people where the instruction manual was kept and put a sticker on the printer with a link to the relevant part of the manufacturer's website where there was a handy fault-finding and frequently asked questions page. This was sufficient for this business.

Operation and maintenance

This amounted to keeping a stock of inkjet cartridges, one for each colour and one black so that there is always a spare. As soon as one is changed (and returned for recycling) another is ordered. As the print head is part of the cartridge a major component is being replaced each time, hence the general reliability of these devices and, hence, also the relatively high cost per page identified during procurement.

Retirement or replacement

So far so good, the printer is working very nicely and a number of new sales have been made as a result of the flyer. The small associated costs have been repaid many times over. However, the black and white laser printer is near the end of its life and a replacement for that is being considered. In the four years since that was purchased the cost of colour lasers, with their lower per page costs compared to the inkjet unit makes cost justification for this device questionable. It has only been in service for just over a year, but is it worth keeping? The capital cost is so low that

it maybe worth keeping as a spare in case of breakdowns, but on the other hand space is at a premium. The cycle begins again.

Lifecycle for an upgrade from standalone to network

This is moving up the complexity scale for an SME. It is a more significant undertaking and this case study seeks to give an idea of what might be involved. Of course a bespoke solution might be trivial, for example just wanting PC equipment in a particular colour scheme for branding considerations. However, the example chosen here required knowledge and experience that the SME did not have. Such a bespoke Information and Communications Technology (ICT) solution needs a combination of IT hardware, software, applications, communications, security and training requirements: something non-trivial.

Need or requirement

Company B supplied plumbing and electrical items to local builders and trade professionals. Originally an entirely manual and paper-based business, over the years various bits of IT had crept in. The most useful was a standalone PC-based stock control system. This had been produced in the early 1990s by the son of one of the owners, a non-IT-professional but who was undergoing an IT degree at the time. It was effectively a holiday job. It was written in an MSWindows version of dBASE IV, a popular PC database system.

This was all fine when only one person needed to access the system, update it or generally maintain it at any given time. It may have been basic but it had done the job for over 10 years, the only upgrade being to move it from one PC to another. However, Company B's business had grown to the extent that one point of access to the stock system was no longer enough; it also wanted to have a second set of premises in a neighbouring town. There was also the possibility of offering an internet-based service in the future; the son was now working for the company and was keen to bring more IT into the business. The need for something new with a multi-site capability had established itself.

Specification

The owners held a number of meetings, also including the IT graduate son, the warehouse manager, the office administrator and a couple of the sales assistants. The first meeting was effectively just a kick off meeting where they agreed that the need was real and decided what they needed to specify before they could ask anyone to tender. They also discussed how they would go about the procurement, who would be responsible for what and so on, as this was not something they did often.

The outcome of this first meeting was a simple plan that established that the son would produce the technical documentation. The warehouse manager and office administrator would establish what the system needed to do in order to fit in with the way the business operated.

At subsequent meetings (there were a further four over the next few weeks), the documents were reviewed until they had something they thought a supplier could respond to. As part of this they realised that they knew enough to start things off, but they would need help either from the supplier or from an external source to develop their requirements over time. This was not something they could implement as a one-off: they had identified a need for ongoing support and development. Whoever they chose, either an external specialist or someone from the supplier, would be a de facto part of their business. This was going to be an important decision.

Identifying suppliers

As mentioned before, a spin-off from the specification exercise was that whoever was going to deliver this technology had to be willing to work closely with Company B and to be on hand to provide flexible support during the early days of use. They were looking for a partnership relationship not just a turnkey supplier. The local chamber of commerce was consulted, but turned up no members who could help. However, it did turn up a couple of leads from people who had used various firms for similar sized projects. Although the job was large for Company B, it was thought that it would be too small to get priority attention from any of the big name national IT companies. Supply of the equipment was not an issue: any of the reputable PC suppliers would do and their prices were comparable. The issue was the implementation and configuration side of the network and the applications: not rocket science by IT standards but outside the company's IT comfort zone. The same team who produced the requirements got together and decided to approach the two local suppliers already identified plus three others they had found via the internet. All of these were companies that had been in business for a few years and were relatively local, within 30 miles. As these were all organisations that were new to Company B, much thought was given to how to determine which to choose and what criteria to use. It was clear that the working relationship might be even more important than price.

Procurement

The requirement for suppliers to be relatively local and not too dissimilar in size to Company B meant that there were only four suitable candidates to choose from. Two of these had some kind of word of mouth recommendation, but none were really a known safe bet.

The plan was simple; there were only three steps.

Step 1. The first step was to issue each supplier with a brief overview of what was needed and a timetable together with a financial and reference questionnaire. Based on this two of the four were eliminated: one did not

reply at all, so was not a good bet for a working relationship; one could not supply banking references making them financially suspect.

Step 2. Although not comfortable with only having two potential suppliers left, they decided to continue. Each supplier was issued with the detailed technical and user and operational requirements and invited to their own question and answer session. This was seen as important as it would give a good idea of what they might be like to work with. Both sessions went well and Company B learnt quite a bit from each of them. However, they got on with one supplier rather better, the relationship seemed to work better somehow, qualitatively they seemed to be more sympathetic to Company B's business goals and to understand the industry that bit more.

Step 3. The third step was to ask for a formal quote from each supplier. The quotes were similar but fortunately the quote from the favoured supplier, although slightly higher, was also the one that inspired most confidence. The response showed they really understood what Company B wanted to do, how their business worked and what it might need in the future. An order was placed and the losing company briefed to the effect that it had been close, why they had not be chosen this time and reassured that they might be considered in the future.

Company B had been lucky, many procurements go much less smoothly: you may end up with nobody you want to trade with and have to start again.

Introduction to service

The biggest elements of this related to training and installation. In particular the new system was 'client-server' based which meant a new way of working and the creation of a more formal approach to running IT systems involving networks and disaster recovery techniques. From the perspective of the procurement only, the fact that this went well with only minor hiccups, which were sorted out reasonably promptly, meant a tick in the box for long-term working.

Operation and maintenance

So far the system is performing well, there have been no major problems and the minor problems were either solved in-house or under the support contract or warranty provided by the supplier. No additional procurement issues have been generated from this and the cost of ownership is as expected.

Retirement or replacement

At the time of writing this had not happened yet, although should Company B decide to implement a web-based service then replacement, or at least modification and integration with new technology and

applications, will be required. They have also identified that there would be benefits in adopting a wireless-based network and are also considering possibly outsourcing the operation and maintenance of the server to their supplier so that they do not have to spend time making backups, considering disaster recovery plans and so forth, although this would have role and responsibility issues for the son.

SUMMARY

It is important to understand that procurement is much more than just buying something. To be effective you need to keep the whole cycle in mind when making any purchasing decision. In particular it is essential to look at the TCO rather than the upfront cost. It is also necessary to revisit buying decisions from time to time to see what has changed and to make sure the original decision is still valid. An SME cannot afford to have dead money tied up in equipment or software that is no longer the right choice. Buy and forget is not a safe option.

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