The Information Management Body of Knowledge

<div style="text-align:right">**2**</div>

Allen Lee's simple model (see Fig. 1.2) was the foundation of the IMBOK, but it masks huge complexities in the territory where information technology, business and society meet, and hence, the IMBOK is an expansion of it that begins to accommodate the different attitudes, vocabularies and expectations that are evident. The reality is that there *are* direct connections between these two worlds, there *are* shared interests that mutate from one level to the next, and it is necessary to understand them if our personal or organisational investments in information technology and information systems are to succeed.

At this first stage, we will develop an understanding of those connections here by dividing the intervening territory into six "management" segments—six areas of interest that each requires distinctly *different* management skills, competencies and techniques, but that share the vision of a valuable outcome from an investment:

- Information technology
- Information systems
- Business processes
- Business information
- Business benefits
- Business strategy

Figure 2.1 shows **information technology** at the left and **business strategy** at the right, thereby reflecting the arrangement of ideas in Allen Lee's model. We shall make the connections between the two using four specific, additional areas of management concern and action that are of concern to *both* parties: the **information system** that makes information technology useful and workable, the **business processes** that are improved by the introduction of new information systems (but which are different to information systems in that they embrace *all* aspects of what a business does, not just the processing of information), the **business information** that supports them and the **business benefits** that evidence that operational business improvements—usually articulated as performance targets embedded within the **business strategy**.
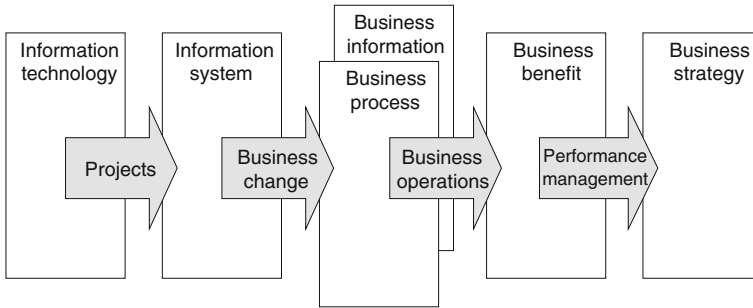
Fig. 2.1 The Information Management Body of Knowledge framework (simplified)

Hence, we see, for the first time, the outline logic that links the two ends of our intended journey. "**Information management**" is a phrase we will use here to encompass everything that has anything to do with information in business—in effect, the six areas of interest that are shown in the figure and enumerated in the paragraph above, *and* the four areas of activity that join them. Each of these six will be examined in some detail in the sections that follow. The combination of them all we will refer to as "the Information Management Body of Knowledge"—or just the "IMBOK", as it has become commonly known. Figure 2.1 presents the simplest view of the IMBOK, and we will look at some of the detail as we proceed from here.

The challenge is to find the managerial connections between IT, the information systems that serve business needs, and the strategic objectives of the business and then understand our competency to manage them. Sounds simple? It is not—it is a complex managerial challenge that cannot be met by IT people alone. Where competency is missing, there will be major challenges in putting them in place. In case you need it, another short, focused example helps to make the point.

A Simple Example

Gerry came upstairs from the computer room and met Sara, who works in marketing.

"Hi, how're you doing?" he asked.

"Fine" she answered. "We just had a great meeting discussing the new web site. We want to add some new features that will allow personalisation of the home page for our regular customers". She knew that Gerry would be interested.

He was. "That's great—when can we get started? I've been playing with XML and the new secure server platform and I'm sure we can work up some great ideas for you …".

Sara wondered exactly what "XML" might be and whether this was the seventh or eight new server that the IT department has bought for themselves this year. She then wondered where the conversation might go next, and decided to cut and run.

"Yeah, sure! Let's meet soon and talk about that" she called as she turned to go down the corridor to her office in the marketing department.

What do you notice about this example? Although it is short, it is quite believable and it makes one or two things clear.

- Gerry gets a clear message that there is a need in marketing, but the implication is that there was no one from IT at the meeting. *Is that what you would expect?*
- Sara gives a short, sharp description of the need, but Gerry fails to engage with her concerning the details. He seems to assume that it is a good thing. *Is that what you would expect?*
- Gerry talks of XML and secure servers. Do you think that Sara would or should understand what he was talking about?
- Sara did not challenge him to explain about either XML or security in server platforms. *Do you think she should have done?*

Neither person made any attempt to examine the interesting middle ground between the information technology (that is clearly "home ground" for Gerry) and the needs of the business ("home ground" for Sara). The casual exchange between Gerry and Sara might be typical of your experience or it might not. The example might be from a large business or a small one, it does not matter, but we are reminded that there is often a place called the "information technology department", and there is "the business", and they might have difficulty communicating.

Let's explore the middle ground of Gerry and Sarah's situation briefly, so that we can see how the IMBOK begins to bring shape and size into an understanding of the situation. We can do this by asking the sorts of questions that we might ask ourselves, whether in the context of our work, our community, or our government:

- What exactly is the *information system* that will serve our needs in a more personalised way? Does Sarah actually need an order entry system? An order status checking system? A cataloguing system? Or, is the personalisation about providing customers with only the web functionality that they need? Is it an existing system, or will it be a new one?
- What is the *business process* that will benefit from such new systems? Is it "customer order fulfilment"? Or, "new customer acquisition"? Or, "customer relationship management"? Or, will it embrace all activities that relate in any way to customers?
- What *business information* will be derived from Gerry's XML data structures? Data is not the same as information, and because a majority of people are

process oriented rather than *information oriented,* there are perpetual difficulties in identifying and organising the right data that will deliver the right information. How might we relate XML data to business information?

- What will be the *business benefits* of the new system? Are we concerned to increase the number of customers? If so, how can we be assured that this will happen? Are we aiming to get more business from existing customers? If so, the same question arises: How can we be assured that this will happen? Are we simply trying to retain existing customers?

When managers make decisions about information technology and the information systems that are built with it, there is a very strong tendency to decide on an arbitrary basis. "*Our main competitor has done it, so we must do it too*". "*Gerry thinks it's a good idea, and he is good with IT, so let's give it a try*". These are not reliable arguments with which to justify spending large sums of money.

It is now time to move on. Before moving into the detail in the heart of the book (in Part Two), this first part concludes by unpacking, introducing and explaining the elements of the IMBOK.

The IMBOK Framework Step by Step

It is critically important to understand the logical connections between technology capability (and cost) and strategic need (and benefits), and this is what the IMBOK does.

The basic outline of the IMBOK framework has been seen already. A more complete version of the framework shows the *knowledge areas* (the white boxes) and *processes* (the grey arrows). Further, because of the central importance of business *process* management and business *information* management, the central domain *business systems* is divided into those two parts. This is an important difference between earlier versions of the IMBOK in the published literature and the version that we will work with here.

- Information technology
- Information systems
- Business process
- Business information
- Business benefits
- Business strategy

In Part Two of the book, each of these domains has its own section, making six sections in all. In this second part, the tools and techniques that help to make things manageable are presented and discussed—they map quite tightly to the processes that link these six areas of management activity.

First, some explanatory notes about the main components of the IMBOK—the *knowledge areas* and the *processes* (that is, the processes of *managing information*, not the main processes of the business).

The Knowledge Areas

Information technology: The world of technology is constantly changing and presents special challenges to those who would wish to understand it. An IT support group in a large organisation should know all about the different technologies that are used—the communications kit, the database software, the operating systems and even the physical infrastructure that houses the technology—but what can a smaller business do to protect its interests? And, what do we all need to know as individuals if we are to make the best possible use of technology? If new technologies appear every three months on average, do we need to update our investment every three months? If we do not, what will the consequence to be? This becomes an exercise in managing time horizons.

Information system: We make sense of technology by engineering it into information systems that include not just the hardware, but all the components of a working system *including* the human capability to work with the system to deliver outputs. Information systems have traditionally been developed and maintained by the "systems development department". There we find systems analysts, database designers and specialists who can test systems and make sure that they work according to the specification. But today, things are changing. Progressive organisations realised some years ago that they share information systems needs with other sibling organisations, so why should everyone suffer the cost of designing and building a unique solution to a shared problem? The *software package* has emerged as the preferred approach to the fulfilment of routine needs. From small personal productivity software that costs a few hundred dollars to huge enterprise-wide systems that cost millions, the expectation is that we will buy a ready-made solution rather than struggle to build our own. But exceptions are still to be found where a business has a truly unique requirement or where a business sees an opportunity that has not yet been exploited by others.

Business processes and **Business information**: Information systems are applied to business processes in order to improve them, and they bring data to the business that becomes useful as business information—it has already been argued that business systems are not the same as information systems. We may wish to make more widgets or to make them more cheaply or both; it is new business systems that will achieve this, not information systems alone. We may wish to increase the information content in our processes that deal with customers, so that we can relate to customers more closely—large businesses have become very interested in how they can use information technology to appear smaller through more intimate relationships with their customers; it is an improved business system that will achieve this, not a just a new database. Hereby, the differences between information systems and business systems become clearer. However, business *process* management is a

relatively new idea, it is not universally adopted, and it has been difficult in many cases; business *information* management is even more of a challenge, and it is a resolutely difficult idea (that we will address here in new ways). A simple view is that a business process is something that extends from one boundary of a business to an opposite boundary, for example "customer order fulfilment", or that it delivers an outcome that is of direct concern to a specific stakeholder, for example "supplier management" or "shareholder relations". Those organisations that have adopted business process thinking would say that processes are the responsibility of functional managers: sales managers look after the activities that make up sales; production people look after production; senior management look after finance and corporate administration. However, there is always confusion about the difference between process management responsibilities and the organisation chart (the "organogram" as some people would call it). We must examine these differences and clarify them. In the same way, business information is something that enables an informed business decision to be made and that needs to be harvested from available data and structured as data in databases. Functional management must determine information needs, in order that effective database designs might be provided. It has been said that any organisation has only one information model, but that there is an infinity of process models that would serve it: we might be selling widgets (that will not change), but we can sell them by mail order, over the phone, on the Internet, or over the counter. More about this in due course.

Business benefit: Here is an interesting one. What *are* the benefits that we are seeking? Can we even anticipate them properly at an early stage in the investment analysis cycle? Will the benefits be evidenced through business performance improvement? How are the actions of managers and functional departments currently judged? By financial measures? Sales statistics? Transaction volumes? This complex area needs to be understood and effectively managed if we are to all work to a common end, but is there a single point of responsibility for the *delivery* of business benefits? As may be judged from all these questions, the management of business benefits from information technology investments is not well understood. In recent years, since the emergence and popularisation of the Balanced Score Card (Kaplan and Norton 1996), there has been huge interest in business performance management. However, not much serious effort has been made to relate business performance management to the benefits of information technology investments and the introduction of new information systems; where there has been research, the results are not clear and some analysis shows that the highest "IT spending" organisations (3 % of turnover or more?) do *not* perform as well as those that spend much less (say, 1 % of turnover). There is much more to this than just reaching into the corporate capital account (or into our personal savings or our donor funds).

Business strategy: Most organisations try to work with a strategy that guides and gives direction to their efforts, although the quality of typical organisation strategies varies widely. A business strategy is usually the product of senior management deliberations, but do senior managers really understand what is going on in the business? Sometimes (often, even?) they do not. And, how can we persuade people

to act upon a strategy when it is decided and agreed? Developing strategies can be great fun: interesting meetings, challenging arguments, time with consultants and fully expensed weekends away from the office and away from home. At the end of the day, a handsome document with a refined analysis and clear targets for everyone to work to, but implementing strategies can be a nightmare. People worry about how strategy will affect them and they do not want to understand how it is dependent on *their* efforts to deliver some of the components of a strategy. Strategy formulation is easy; strategy implementation is extremely difficult.

The Information Management Processes

Suppose that we know all about the six knowledge areas. We have experts who know all about the technologies that we use. We have competent systems development staff that can work reliably to deliver good systems that meet the specification of the requirements. Functional management in the main business areas is strong and amenable to change, and the senior management team is well informed and sets reasonable targets.

Things can still go wrong. The problem lies in the *migration* of ideas and information management value from one area of competency to another, as indicated in Fig. 2.2.
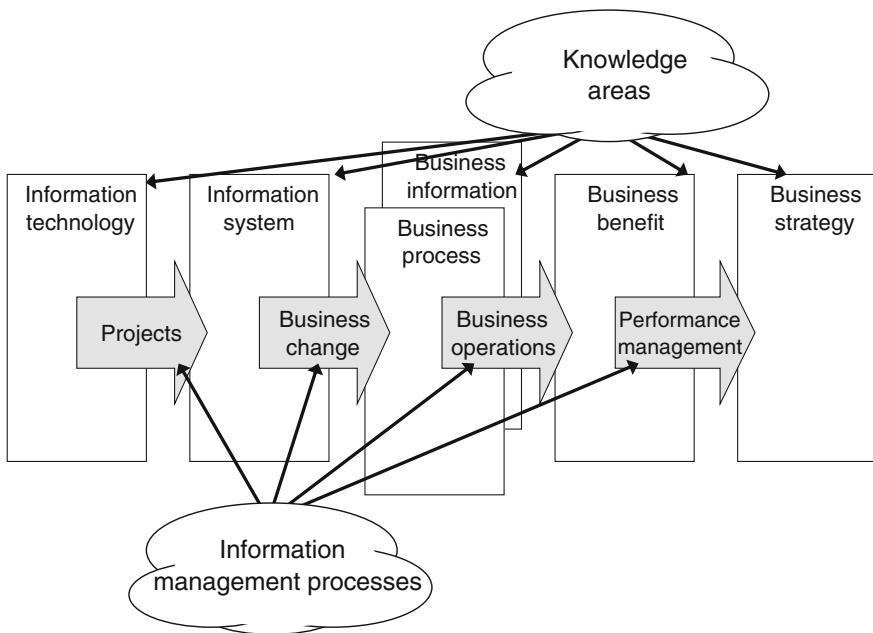

Fig. 2.2 Six management domains, four intersections of necessary alignment

Projects: Information technology is useless until it is engineered into information systems that meet the needs of the business systems (business processes and business information). Getting business people to articulate their needs can be extremely difficult. Consider the case where a new customer relationship management system is to be developed, based on Web technologies. Customer relationship management is not happening right now, at least not in any formalised sense. So, how can anyone tabulate and describe the facilities and functionality that might be needed? *Project management* is the information management process that delivers systems, and project management is still difficult. Project managers tend to focus on tasks, milestones, deliverables and budgets. Success is seen in "coming in on time and on budget" irrespective of the actual outcome at the level of the business. It is a rare project manager that can see how all the detailed work in a project will produce the business benefits that represent the fulfilment of strategy, but that understanding is necessary to achieve.

Business change: The best information systems succeed in delivering benefits through the achievement of change within the *business* systems. But people do not enjoy change, especially when it makes new demands upon their skills in the ways that new information systems often do. Consider the case where a new sales system allows sales staff to deal with sales orders over the Internet or over the telephone, where previously they were solely concerned with mail and fax orders. The previous expectation was to deal with an order within a week (say), but now customers expect the order to be dealt with in minutes. Telephone and computer skills that were previously needed only to deal with queries and complaints now need to be extended to deal with sales details and with the negotiation of terms and discounts. At the start that is not seen as a problem, but in the event, it causes staff stress and they will resent this kind of change unless it is properly managed.

Business operations: With new systems in place, with business processes and business information improved, and with staff finally ready and able to work with new processes, *then* the business can get to work. "Business operations" is the business at work: producing its goods and services, delivering value to customers and others, performing to the expected level, and earning revenue as well as delivering happiness to customers. We are now beyond the scope of the direct involvement of information technology and information systems staff, but we are still very much concerned with the benefits of new information systems, as seen through improved business performance. The way that information systems have impacted on business systems has changed markedly over the years: from the early days, when all that was needed was a demonstrable improvement in throughput or a marginal reduction in cost, we have progressed to the point where systems will sometimes dramatically change the ways that we work. In some retailing businesses, supply-side companies (such as the food producers or hardware suppliers) are now expected to manage the stock in the large retail stores directly, providing fresh stock when it is needed rather than waiting for the store management to place replenishment orders. This requires extensive information sharing and information management at a very operational level. The retailer may be asked to make a commitment to pay for supplied goods without an invoice on the grounds that the

price and the terms of payment are already agreed. Retailers operating as "acquirers-and-breakers-of-bulk" become "renters-of-shelf-space". And now, just in case we thought we had solved and optimised the problem, Internet shopping is decimating the high streets of many cities. Who wants to trek into town and battle to find a car parking space, when they can buy everything that they need from the comfort of their home?

Performance management: There has been a dramatic rise of interest in the way that we manage business performance. From the early days, when financial results were everything, we have moved to a much more sophisticated regime where we strive to balance financial success with internal efficiency, with customer satisfaction and with organisational learning and development. It is no longer sufficient just to make money, we have to make the customer happy, we must work to improve internal operations so as to be "best of breed", and we have to ensure that all the time the organisation is moving forward in terms of capability and competencies. Performance management is where business strategy meets business systems and where the benefits of our investment in better business practice are finally seen and delivered.

Summary

There are always many ways to see a business, and the Information Management Body of Knowledge is only one way. It is important to see how other areas of business activity will also contribute to strategy—it is not only information technology that moves a business forwards. Human resource management, product development and marketing will all have an important role to play in strategic ways, and we must not see one domain of activity alone as the sole source of strategic success. On the other hand, human resource management, product development and marketing are all dependent on effective information management, and so in the final analysis, our competency to manage information well can be said to be predominant.

We have found six knowledge areas that stand as separate domains of management competence, each of which must be mastered if we are to succeed with information technology and information system-related investments:

- Information technology
- Information systems
- Business processes
- Business information
- Business benefits
- Business strategy

These are not six areas for sequential managerial action—they must rather be seen as parallel activities requiring continuous attention. Starting at the left-hand end or the right-hand end, they are six domains of expertise that could not all be easily dealt with by a single person—they must be the responsibility of different

people with different management skills and backgrounds. It is the movement of ideas from one domain to another and from one person to another that has proved to be so difficult.

For years, now we have had a strong managerial interest in information technology and business strategy. What has emerged (and is not yet widely understood) is the importance of the intervening domains: information systems, business processes, business information and business benefits. We are therefore concerned here to identify and describe "best practice" in the six knowledge areas and the transfer of information value between them, as seen by experts around the world.