Managing the Realization of Business Benefits from IT Investments

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Abstract

With their information technology (IT) investments, most organizations focus on the implementation of technology not on the realization of expected business benefits. Consequently, benefits are not forthcoming despite projects being considered a technical success. This failure to realize benefits is primarily due to methods and tools that emphasize improving the supply-side of IT delivery, including the use of outsourcing. No IT investment is ever just about technology. Drawing on over 10 years of research that has studied how organizations improve the return on the investment they make in IT, this paper presents an approach which enables managers to identify, plan for and manage the delivery of benefits. This approach implies new ways of working between IT professionals and business managers that complement the best practices in delivering IT solutions, but that engage business managers in a way that enables them to apply their collective knowledge to creating business value from IT enabled change.

**KEYWORDS:** IT implementation, Business benefits, IT Benefits Management, IT projects, IT benefits realization planning
In many organizations IT has a poor reputation. There can be many reasons for this, but one that is consistently encountered is that IT is seen as failing to deliver “value for money”. Indeed, a recent IT survey reported that more than a fifth of all US Chief Information Officers (CIOs) consider that their existing IT investments have failed to generate a genuinely good return for their organization and a further quarter were only mildly convinced that they had. We suspect that if executives from outside the IT function had been surveyed this statistic would have been substantially lower.

Management practice provides some insight as to the origins of this inability to deliver business benefits. When considering return-on-investment (ROI) calculations, organizations are too pre-occupied with manipulating the denominator – reducing spend, and are failing to focus on how deploying IT can create business value and deliver significant benefits to the organization. Equally worrying is that the traditional investment appraisal process is seen as a ritual that must be overcome before any project can begin, with many benefits being overstated in order to get projects through the appraisal process. No wonder few companies engage in post implementation reviews: it is already known that many of the benefits identified in the investment proposal are unlikely to be achieved. And anyway, without clearly identifying the expected benefits, what criteria do organizations use to assess the success of an IT project? Generally, it is whether the new IT system is delivered on time, within budget and whether it meets the technical specification. Little account is taken of how well it is actually being exploited by the business and if it is delivering the expected business benefits. There still seems to be a naive assumption

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1 See also comments made by McAfee. A. McAfee, “Mastering the three worlds of information technology”, Harvard Business Review, November (2006): 141-149.
3 Nelson notes that 'time', 'cost' and 'product' are process-based measures and recommends that outcome-based measures of 'use', 'learning' and 'value' should also be considered in evaluating IT investments. See R. Ryan Nelson, “Project retrospectives: evaluating project success, failure, and everything in between”, MIS Quarterly Executive, 4/3 (2005): 361-372.
underpinning investments in IT that ‘once we get it in, benefits will begin to flow’ even though this silver-bullet view has been long shown as flawed.4

So how can management ensure that investments made in IT are not a waste of money? In our work with a wide range of organizations, we have developed an approach and a set of tools that can aid organizations in significantly improving the delivery of business benefits from their IT investments (see Appendix 1 for an overview of this research). A core feature of the approach is the clear identification of expected benefits and a detailed plan of how those benefits will be realized at the outset of the project. This plan is then used to guide actions throughout the project implementation and to review progress and achievement both during the project and following its completion. An important element of the approach, which is central to the successful delivery of benefits, is the involvement of key stakeholders in the development and execution of this benefits realization plan. These stakeholders are the business managers and users who will be responsible for changing how they work as well as making effective use of the new systems and technology.5 Indeed, for many of the organizations who have adopted this approach, they have not only improved the success of their IT projects, they have also significantly improved the relationship between their business and IT staff.

One bank that we studied is typical of the lack benefits realization from IT. The project team working on a new customer relationship management (CRM) system had included benefits such as increasing customer retention rates, improving cross sell opportunities and the conversion of leads into sales, reducing the cost of marketing campaigns and increasing average number of products per customer in its initial ROI calculations. However, three years after the project had begun few of these had actually been realized despite the project being delivered on time, to budget and to specification. While the bank was clear as to what they wanted, they were unclear as to how they could realize the benefits from this investment. They consequently failed

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to identify the many changes to how individuals and groups within the organization would have to work in order to deliver benefits. Instead they concentrated on deploying the technology as quickly as possible. As a result, a $10 million IT implementation delivered no immediate benefits.

The Principles of Realizing Benefits from IT

Our analysis has led us to identify a number of principles that underpin the process of realizing value from IT.

*IT has no inherent value.* Just having technology does not confer any benefits or create value. Unlike many other assets, such as precious gems or real estate, the value of technology is not in its possession. In fact, all the spend serves to do is incur cost – benefits result from the effective organizational use of the IT asset acquired or created.⁶

*Benefits arise when IT enables people do things differently.* It is only when individuals or groups within the organization, or amongst its customer and supplier bases, perform their roles in more efficient or effective ways that benefits emerge. This usually demands improving how information is used.⁷ Technology can enable and shape new ways of working through the redesign of intra- and inter-organizational processes or facilitating new work practices.

*Only business managers and users can release business benefits.* Since benefits emerge from changes and innovations to ways of working in the organization and in its interactions with customers and suppliers, it is business managers and users (and

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possibly customers and suppliers themselves) that must make these changes. This has implications for accountabilities. IT and project staff cannot be made accountable for the realization of business benefits from IT investments; rather, business staff must take on responsibility for this activity.  

The recognition of this fact is a key means of ensuring business staff become more involved in so called IT projects.

All IT projects have outcomes but not all outcomes are benefits. This simple, yet profound principle resonates with the reality that many IT projects produce negative outcomes, sometimes even affecting the very survival of the organization itself. The challenge for management is to ensure that, as well as avoiding negative outcomes, the positive outcomes are converted to deliver explicit business benefits.

Benefits must be actively managed for. Benefits are not outcomes which automatically occur. Indeed, there is often a lag in benefits accumulation after the implementation, i.e. a time gap between initial investment and payoff. Therefore, managing for the benefits does not stop when the technical implementation of the project is completed, it continues until each of the expected benefits has either been achieved or it is clear it will not materialize.

Problem versus Innovation-Based Implementations: Identifying Ends, Means and Ways

What our research is signaling is that if organizations are to increase the likelihood of success from their IT investments, they must separate out the different causes of benefits before developing any implementation plan. Approaches to implementation will differ depending on the nature of the change involved; and changes will

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8 For more on who should be held accountable for value realization through IT see C. Tiernan and J. Peppard, “Information technology: of value or a vulture?” European Management Journal, 22/6 (2004): 609-623. Kohli and Devaraj also highlight that IT payoffs are the responsibility of the entire organization. See Kohli and Devaraj, op. cit. 2004.

inevitably involve people. From our data we have identified two distinct types of IT interventions: problem-based implementation and innovation-based implementation. Both are likely to be present in any large scale IT project, but the impact on employees and other stakeholders will be quite different and the issues that need to be managed will be very dissimilar. In managing implementation it is crucial to identify the type of intervention that is being considered and plan accordingly.

To help in making this distinction, consider that at the start of many IT investments, objectives or targets are set for the performance improvements that are expected. These improvement targets or ends then form the basis of the business case and calculation of a Return on Investment (ROI). This approach is appropriate when the investment is problem–driven, since the benefits that should result from the removal of known problems through the new IT means and improved ways of executing business processes and activities can usually be identified and quantified. The main challenge is to agree the best combination of ways and means of achieving them. An example of such a problem-based implementation was the deployment of a global financial system by a major accountancy firm that sought to remove the delays they were incurring in producing consolidated billing for their global clients and closing their year end accounts.

It is often more difficult to specify the ends that will be achieved from innovation-based investments. This is due to the uncertainties about whether the new IT functionality and business changes can be successfully implemented or the benefits that those changes will actually deliver. The business value realized from innovation-based projects will depend on the ability of the organization to identify, create and successfully implement, advantageous new ways of conducting business. This implies that the investment objectives and scope may well change during the implementation process, as the organization learns more about what can be achieved and how. A potential issue with IT enabled innovations is that too much attention is paid to what the IT can do, i.e. the means, rather than the changes the organization has to, or could make, to exploit fully the capabilities of the technology.

Thus, with problem-based or ‘ends driven’ implementations – i.e. focused on the end result – the organization is primarily investing in IT to improve performance in order to:

- overcome an existing disadvantage against competitors
- prevent performance deteriorating in the future to a level that would be a disadvantage
- achieve stated business targets
- remove constraints that are preventing opportunities being taken.

Examples of problem-based interventions include: integrating customer data to provide a single point of contact for customer enquiries; implementing an ERP system to remove reconciliation problems between production and finance; providing employee self-service applications via a portal to reduce administration and purchasing costs; and providing lap-tops to mobile sales force to ensure the accuracy of customer quotations.

With innovation-based, or ‘ways and means’ driven interventions, the organization is investing in IT to exploit a business opportunity or to create potential competitive opportunities or new organizational capabilities by:

- doing something new involving using IT
- doing something in a new way using IT
- using new IT to do something it could not do before.

In all these situations, the innovation is dependent on combination of the technology, the organization’s technical expertise and the ability of the organization to change in order to make effective use of the capabilities. Examples include: creating an on-line sales channel to reach new customers; introducing vendor managed inventory for key suppliers; allowing customers to undertake self-billing; deploying a data warehouse and analytics to automate operational decision making; and introducing mobile technologies for professionals to work on-line during client engagements.
The Benefits Management Approach

Any approach to realizing benefits from IT investments must be able to address the principles identified above for both problem-based and innovation-based implementations. Through our research we have developed an approach to benefits management that is simple to use, yet flexible enough to accommodate the very different starting points for the two investment types.

We have adopted the term ‘IT benefits management’ to refer to the process of organizing and managing such that the potential benefits arising from the use of IT are actually realized. The term ‘benefits management’ was chosen to emphasize the crucial point made above, that benefits arise from the changes made by individuals or groups within or outside the organization. These changes must be identified and managed successfully if the benefits are to be realized. ‘Benefits realization’ and ‘change management’ are therefore inextricably linked. This is obviously the case when the project is explicitly an IT-enabled or ‘techno-change’ program, but is also true in most contemporary IT projects, except perhaps a limited number of pure infrastructure investments.

The process of producing a benefits realization plan can be summed up as a series of questions that have to be answered in order to develop a robust business case for the investment and a viable change management plan to deliver the benefits. The questions are focused around organizational or business improvements and changes and not IT. The knowledge required to address these questions is unlikely to be found in any one individual, rather it will be distributed across a number of people, who must be brought together to provide the answers.12

1) Why do we have to improve?

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11 This has been referred to as ‘technochange’. See L. Markus “Technochange management: using IT to drive organizational change”, Journal of Information Technology, 19/1 (2004): 4-20.
12 In an empirical study of projects to implement ERP systems, Newell and colleagues noted that “[a] project team, set up to design and implement a large-scope IT system, is essentially tasked with integrating distributed knowledge”. See S. Newell, C. Tansley and J. Huang, “Social capital and knowledge integration in an ERP project team: the importance of bridging AND bonding”, British Journal of Management, 15 (2004): S43-S57, 2004.
2) What improvements are necessary or possible? These have to be agreed by the key stakeholders and become investment objectives.

3) What benefits will be realized by each stakeholder if the organizational objectives are achieved? How can each benefit be measured?

4) Who owns each of the benefits and will be accountable for its delivery? The benefit owner will be responsible for the value assigned to the benefit in the business case.

5) What changes are needed to achieve each benefit? This the key to realizing benefits through identifying explicit links between each benefits and required changes.

6) Who will be responsible for ensuring each change is made successfully?

7) How and when can the changes be made? This requires an assessment of the organization’s and specific stakeholder group’s ability and capacity to make the changes.

The benefits management approach includes a set of linked tools and frameworks to enable organizations to use their collective knowledge to develop answers to these questions and hence produce a benefits realization plan, which will guide both the implementation of the project and the subsequent review process.

Only when this assessment has been completed and the feasibility of achieving the target benefits thoroughly tested, should a business case requesting funding for the IT investment be put forward. More importantly, this case will be supported by a comprehensive benefits delivery plan which greatly increases the likelihood of the benefits actually being realized.

**The Benefits Dependency Network**

The core tool in addressing these questions and in constructing a benefits’ realization plan is the Benefits Dependency Network (BDN). The BDN provides a framework for explicitly linking the overall investment objectives and the requisite benefits with the

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13 More details about the complete process and tools and techniques involved can be found in J. Ward and E. Daniel, *Benefits Management: Delivering Value from IS and IT Investments*, (John Wiley & Sons, Chichester, 2005).
business changes which are necessary to deliver those benefits and the essential IT functionality to both drive and enable these changes to be made.

Figure 1 illustrates part of a network for a CRM application developed during our work with a large European paper manufacturer – the actual network was considerably more detailed. The company, which manufactures high quality papers and paper-based packaging materials, sold their products via distributors, to printers, large corporations and packaging manufacturers. Sales were achieved by advertising and promoting (A&P), a key part of which were targeted marketing campaigns, in which samples and marketing collateral were mailed out to customers. This mailing was then followed up by either a visit from a member of sales staff, or a telephone call from the sales office. On average, the company carried out around 50 such campaigns per year to its 6000 end customers, costing a total of some $15 million.

Two objectives for the investment were agreed: to improve the effectiveness of A&P expenditure (defined as the ratio of sales revenue generated/A&P costs) and to increase sales volume and value, particularly from new customers. The specific benefits expected to be delivered by achieving these objectives included: reduced costs by avoiding wasted mailings and product samples to ‘irrelevant’ customers, increased response rates from A&P campaigns, increased follow up of leads generated by campaigns and an increased conversion rate of leads to sales.
The network was constructed over a series of workshops involving sales and marketing managers, from the 15 countries in which the company operated, and the central IT staff. To develop the BDN, the team worked backwards, or right-to-left, from the agreed investment objectives and the benefits that the sales and marketing managers identified, through the required changes in how staff would need to work, to the new IT necessary to enable those changes to be made. This way of working is appropriate for most IT investments, and is an important feature of the benefits management approach. It ensures that investments are driven by business-demand, shown on the right hand side of the network, rather than IT-supply on the left, which has traditionally driven many projects. This right-to-left working also ensures that investments in IT are only made if they will provide explicit business benefits. However, as discussed later, innovation-based investments often require some evaluation of the technology before the objectives and benefits can be clearly stated.

Changes can typically be categorized into two types: business changes or enabling changes. Business changes are permanent changes to working practices, processes,
and/or relationships which will cause the benefits to be delivered. They cannot
normally be made until the new system is available for use and other necessary
enabling changes have been made; e.g. allocating more sales time to potentially high
value customer leads identified by the new system, requires the system and other
enablers to be in place. In contrast, enabling changes are typically ‘one-off” changes
which are pre-requisites for making the business changes or are essential to bring the
new system into effective operation. These often involve tasks such as defining and
agreeing new working practices, redesigning processes, agreeing changes to job roles
and responsibilities, establishing new performance management systems, training in
new business skills (as well as the more obvious training and education in using the
new system). They can often be made, or have to be made, before the new system is
introduced; e.g. redefining the customer segments or agreeing a new sales account
management scheme to ensure rewards reflect the increased attention to new or high
value customers.

Once the initial BDN has been constructed, measures for each of the benefits and
responsibilities for all of the benefits and changes must then be assigned and time-
scales established. Assigning ownership increases accountability for both achieving
the desired outcome and carrying out the activities needed to get there. In a major UK
bank, managers have to personally sign the business case for each benefit they are
claiming to show their commitment to realizing them. These benefits were then
included in their future targets.

In addition to agreeing measures for all the benefits, establishing metrics to assess
progress across the range of changes is important to ensure the changes are completed
successfully. These can also be linked to staff compensation. A global pharmaceutical
company developed a BDN for the implementation of its Shared Service Center
across 13 European countries. The savings expected depended not only reducing
support costs by standardizing applications for many administrative functions, but
also introducing common IT service processes across all the units. All of the change
activities identified in the BDN for rationalizing existing applications and services and
transferring them to the new centre were cascaded down to the level of individual
managers and built into their 6 monthly performance objectives.
For the paper company, the resulting network highlighted how individuals and groups had to change the way they worked, individually and collectively, before the benefits could be realized and the investment objectives met. Involvement in the process of building the network helped the managers identify the interdependencies among the required changes and how they had to work together to bring about the those changes, leading to more realistic planning for the realization of the benefits.

On a number of occasions, building such a network has enabled organizations to avoid unnecessary IT expenditure, since it is possible to achieve the benefits by merely changing current working practices or by using existing systems more effectively. For example, in a UK Health Trust consisting of five hospitals it was proposed that a new system be implemented to schedule and co-ordinate the allocation of beds across all five sites to maximize the utilization of resources. In the process of developing the BDN it soon became clear that the actual processes and practices in place were quite different across the five sites, although they all used the same existing system. By merely making those practices consistent, the main benefit of increasing capacity by 15% was achieved almost immediately without incurring any additional IT costs. As a result, waiting times for patients were reduced and the avoided IT expenditure of $600,000 could be spent on new medical equipment.

Some organizations have used the BDN to help in scoping individual work packages on a large-scale project. By identifying all the necessary changes to deliver a particular benefit or set of benefits, one insurance company created a number of sub-projects, which were then implemented on a phased basis. Each sub-project focused on achieving particular ‘benefit streams’ and provided focus to what was a complex project. This is in contrast to the fragmented approach that organizations often adopt with IT projects, where phased implementation is based on technical components not business benefits.

Failure to complete a network may illustrate that the expected benefits are not achievable. Alternatively, it may signal that a pilot may need to be undertaken to identify changes and assess whether benefits are actually feasible. If a network ultimately cannot be constructed than the investment should not be made as the analysis indicates that benefits are not achievable.
Benefits Dependency Networks for ‘Problem-based’ and ‘Innovation-based’ Investments

Our research also identified that the process of constructing the BDN varies, depending on whether a problem-based or innovation-based investment is being considered. However, to complicate matters, large-scale IT investments, such as rolling out an ERP system globally, will probably include both problem and innovation components.

Problem-based Investments
The primary purpose of constructing the network for problem-based investments is to identify the most cost effective and lowest risk combination of IT and business changes that will achieve explicit quantified improvements i.e. they are mainly ends driven.

As shown in Figure 2, in such cases it is first necessary to define as precisely as possible the improvement targets that can be achieved if the problems or constraints are removed. These form the objectives for the investment. The benefits that achieving the objectives will deliver are also identified, along with who will own each benefit and how it will be measured. Current processes and ways of working are then analyzed to identify possible combinations of business changes and IT functionality that could deliver the benefits. Emphasis should be on using existing systems or off the shelf software and avoiding new IT development or extensive customization. The preference should be to change business processes and procedures and even people’s roles and responsibilities wherever possible, to reduce the technology costs and risks. The objectives and benefits are then finalized for the preferred option and a full business case developed, by quantifying the expected levels of improvement and their financial values.

In the paper company this careful analysis revealed a number of causes of the ineffectiveness of the A&P spend: the badly structured database made it difficult to select relevant customers; responses were inconsistently followed up and the database was not always updated with the responses received. Even more importantly there was
poor co-ordination across campaigns, so customers could be either inundated with mailings or neglected for long periods. Objectives for particular campaigns did not consider the expected level of wasted mailings and it was not measured. Lastly it transpired that the majority of campaigns ran late compared with the plans, which made it very difficult to synchronize and optimize the sales activities across all the campaigns. Relations between the sales and marketing staff were often tense and each blamed the other for the poor sales/expenditure ratio. The last of these problems was solved by implementing a project management approach and a common process for all campaigns, supported by simple software. The schedules and progress of all campaigns was visible to everyone.

**FIGURE 2** Developing a Benefit Dependency Network for problem-based interventions.

As a result it was clear that about 40% of the direct costs of A&P could be saved. By making changes to the ways that sales and marketing staff worked, combined with changes and extensions to existing systems this saving of $2m was achieved in the first year, whilst achieving the same level of responses as previously.

**Innovation-based Investments**

For innovation-based implementations, the main purpose in building the network is to understand how a combination of organizational changes and technology deployment will create a worthwhile advantage by pursuing an opportunity and what the
organization has to do to gain the advantage. Developing a BDN for innovation-based investments is inevitably iterative, since the benefits are difficult to define and are dependent on the nature of the changes the organization is willing to make and its ability to develop and deploy new technology.

Innovation-based implementations are of two types, both of which are aimed at creating advantage for the organization. The first is essentially ways driven while the second is means driven.

The first is where an identifiable opportunity exists and the purpose is to assess whether the organization can make the necessary changes that will enable it to gain advantage from the opportunity. As shown in Figure 3, in such cases it is necessary to first create a ‘vision’ that describes the nature of the advantage – this is, a set of initial objectives that ‘paint a picture’ of what the situation would be if the advantage is gained. Potential business benefits that would be realized from the advantage and the types of business changes that would be essential to achieving them can then be identified. Since this is an innovation, it is likely that many enabling changes will be required to create new processes, competences and redefine responsibilities to develop the new ways of working. The ways in which technology can then be best used to enable each of the business changes can then be assessed.

A telecoms equipment supplier realized that it needed to increase revenue from its service operations to offset the reducing margins on its hardware and software, but this could only be achieved by providing high levels of service support to its customers. From discussions with its largest customers it was clear that the potential revenues could be several times higher, if the company was able to service other suppliers’ equipment within one contract. However it could not afford the risk of creating a large force of service engineers. By implementing a new Service Management System, which linked it and its customers directly to several hundred independent qualified engineers it was able to create a national service network, which could guarantee 24 by 7 cover to service almost all the equipment a customer possessed – at a premium price. Developing this new type of networked service required it to think less internally and use IT to create new relationships and ways of working with both its customers and suppliers. The quality of service it delivered
also gave it the opportunity over time to increase sales of its products to replace those
of competitors.

The second type of innovation is when a new technology appears to offer opportunities to create an advantage, such as with RFID or business process management software. Whilst such investments should be focused on the potential business opportunities, i.e. what type of advantages could be obtained, this needs to be balanced with an understanding of the capabilities of the new technology and the business changes that would be required to exploit those capabilities. It is then possible to identify potential benefits and agree the overall objectives (see Figure 4). By definition, innovations based on new technology are inherently risky, and before making a significant investment a pilot study should be carried out as part of the evaluation. This should not only focus on the technical feasibility, but also on confirming the changes that are required to deliver benefits and the magnitude of expected benefits.

In the paper company, the increase in sales through better conversion of leads, required completely new systems and ways of working for the sales staff, in particular they would be directed as to which customers to visit by the responses to the campaign and the incentive component of their pay would depend on the success of those visits. The company also needed to know that this directed new approach would
not jeopardize existing customer relationships, for instance by dealing with them through the telesales channel rather than personal visits by sales staff.

**FIGURE 4** Developing a Benefit Dependency Network for new IT innovation-based interventions.

Having identified that changing how resources were used could enable customer contacts to be addressed more efficiently and effectively, thereby increasing the number of sales contacts made, the remaining issue was whether the more productive use of sales staff, combined with the improved targeting of campaigns, would actually deliver more sales, and specifically more sales caused by those campaigns. The company carried out a pilot implementation over 4 months and compared the results of the new approach with those from the same campaign run traditionally in a different country. After allowing for the effects of the extra effort and enthusiasm by the staff in the pilot, it was clear that sales were at least 20% better than the control group. In the year following implementation campaign based sales increased by $12 million (15%) and to nearly 30% in year two.

**Benefits management: a way of increasing the value generated from IT investments**

The benefits expected from any IT implementation are unlikely to emerge automatically. Any benefits sought must first be identified along with the changes in ways of working that will bring about and sustain each of the benefits. Ownership and responsibility for the realization of each benefit must then be assigned and how it will
be realized needs to be planned by the benefit owner and those responsible for making the changes on which it depends. As our research has consistently found, through this type of benefits realization planning the likelihood of the benefits being achieved is greatly enhanced. Development of the BDN not only enables the knowledge and experience of business managers to be applied more coherently to planning the investment, it creates a clearer understanding of how different groups need to work together to achieve the benefits they and the organization wish to gain. A leading supermarket in the UK used the approach as part of a $4.5 billion transformation program which included outsourcing of IT development and services. The benefits management approach was used to ensure that ownership of the benefits and associated significant changes to business processes and ways of working remained within the control of the organization.

The benefits management approach described here has now been used by well over a hundred organizations of all sizes, in both public and private sector across the world. It has been employed to increase the value derived from investments undertaken and also to avoid wasted expenditure on projects that, when rigorously analyzed using the approach, would not deliver sufficient benefits to justify the spend. Further examples of its use include one of the top five global pharmaceutical companies, with sales in excess of $37 billion, that used the approach to rationalize and optimize its IT investments following its formation from the merger of two already very significant firms. Development of benefit dependency networks for all major projects underway in each of the firms allowed the new entity to identify where projects were duplicated, ensure effective joint working on the common projects and also prioritize those that were essential to ensuring the expected benefits of the merger were achieved as early as possible.

Constructing a BDN can also prevent organizations from embarking on investments that have no chance of success. A chemical company developed BDNs to review and prioritize all the requested IT investments in their two year strategic plan. The review revealed that nearly 50% of them were unlikely to deliver any worthwhile benefits, given the level of investment involved, enabling resources to be concentrated on those that would produce a significant return from the existing $20 million IT development budget.
The approach has also been used successfully in many smaller firms. A family owned publishing firm used the approach to explore the benefits and implications of developing an e-commerce offering to distributors and major retailers, concluding that they needed to change both marketing and customer account management strategies before launching new on-line services.

It has also been used extensively in the public sector organizations including healthcare, defence, police and taxation. The emphasis in many cases has been to increase the involvement of managers and professionals in large IT projects, to ensure the investments are driven by the need to deliver benefits both within the service and for its external stakeholders, rather than allowing the projects to become technology driven. As we write, the benefits management approach has been adopted as the basis for the ‘best practice framework’ for all IT investments within the State of Queensland in Australia and is being introduced by a European Government to improve the management of its IT investments.

Appendix 1: About the Research

This paper is based on three related research projects conducted at the Information Systems Research Centre at Cranfield School of Management. The first is a longitudinal study that explored how organizations can realize business benefits and value from their investments in IT. The researchers worked with 20 large organizations in both public and private sectors in the UK. The key findings of the study can be found in J. Ward and J. Peppard, *Strategic Planning for Information Systems*, 3rd Edition, (John Wiley and Sons, 2002) and J. Ward and E. Daniel, *Benefits Management: Delivering Value from IS and IT Investments*, (John Wiley and Sons, 2006).

The second was a study of customer relationship management (CRM) projects in a variety of different organizations in a range of business sectors. Case studies were undertaken in 15 companies. The findings of this study have been published in S. Knox, S. Maklan, A. Payne, J. Peppard and L. Ryals, *Customer Relationship Management: Perspectives from the Marketplace* (Butterworth-Heinemann, Oxford, 2003) and S. Maklan, S. Knox and J. Peppard, “The missing link of CRM profitability: Building marketing capabilities”, *California Management Review*, under review.

The third project studied the particular change and organizational issues associated with the successful deployment of enterprise systems. The scope of the project