Chapter I

A Review of IS/IT Investment Evaluation and Benefits Management Issues, Problems, and Processes

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INTRODUCTION

Information systems / information technology (hereafter referred to as IS/IT) now represents substantial financial investment for many organisations. Information systems and technology managers have found it increasingly difficult to justify rising IS/IT expenditures. They are often under immense pressure to find a way to measure the contribution of their organisations' IS/IT investments to business performance, as well as to find reliable ways to ensure that the business benefits from IS/IT investments are actually realised. This problem has become more complex as the nature of IS/IT investments and the benefits they can deliver has evolved over time and has changed rapidly. Furthermore, the evaluation of these IS/IT investments is a complex tangle of financial, organisational, social, procedural and technical threads, many of which are currently either avoided or dealt with ineffectively by organizations (Pervan, 1998).

In this chapter we will learn what is IS/IT investment evaluation and benefits management, discuss some of the problems and challenges in this area, review some of the better known approaches to this problem, acknowledge some of the leading authors in the area, and conclude with a summary of the current status of the field and some possible directions for future research and practice.

IS/IT INVESTMENT EVALUATION

What is IS/IT Investment Evaluation?

With increasing levels of IS/IT investments and the growing significance of information systems within organisations, IS/IT investments evaluation is becoming widely recognised as a very important activity. According to Keen (1995), information technology

(IT) has "become the generally accepted umbrella term for a rapidly expanding range of equipment, applications, services, and basic technologies." Katz (1993) has suggested that information technology (IT) is an "umbrella term that includes the integrated user-machine systems for providing information to support the operation, management, analysis and decision-making functions in an organisation." Weill and Olson (1989) define IT as a collection of "all computers, communications, software, networks and all the associated expenses, including people dedicated to the management or operation of the IT."

On the other hand, investments are commitments of resources, made with the purpose of realising benefits that will occur over a reasonably long time in the future. Therefore, an investment in information technology (IT) may be referred to as any acquisition of software or hardware which is expected to expand or increase the business benefits of an organisation's information systems (IS) and render long-term benefits (Apostolopoulos and Pramataris, 1997).

Evaluation is often considered as a process to diagnose malfunctions and to suggest appropriate planning and treatment by providing feedback information and contributing to organisational planning. It is generally aimed at the identification and quantification of costs and benefits (Symons, 1994). Taking a management perspective, evaluation is about establishing by quantitative and/or qualitative means the worth of IS to the organisation (Willcocks and Lester, 1996). Symons and Walsham (1988) pointed out that the primary function of evaluation is to contribute to the rationalisation of decision making. Therefore, by combining the definitions of investment in IT and evaluation mentioned above one can define IT investment evaluation as the weighing up process to rationally assess the value of any acquisition of software or hardware which is expected to improve the business value of an organisation's information systems.

The Productivity Paradox

The measurement of the business value of IS/IT investment has been the subject of considerable debate by many academics and practitioners (van Grembergen and van Bruggen, 1998). The difficulties in measuring benefits and costs are often the cause for the uncertainty about the expected benefits of IS/IT investments and hence are the major constraints to IS/IT investments. Organisations seeking value for money in IS/IT investments have spent a lot of energy, time and money that has largely gone to waste. Therefore, evaluation is often ignored or carried out inefficiently or ineffectively because of its elusive and complex nature (Serafeimidis and Smithson, 1996).

As mentioned earlier, information systems and information technology are often costly to purchase, set up and maintain. Therefore, it is natural to suppose that these investments offer economic value and that this value overcomes the costs. However, according to Hochstrasser and Griffiths (1991), organisations often report that large-scale IS/IT deployment has resulted in replacing old problems with new, and that, overall, introducing IS/IT can be a huge disappointment since unexpected difficulties and failures are regularly encountered and expected business benefits are frequently not realised. To add to this difficulty, the determination of IS/IT investment and returns is also problematic because of the lack of consensus in defining and measuring such investment (Mahmood and Mann, 1993). While organisations continue to invest heavily in IS/IT, research studies and practitioner surveys report contradictory findings on the effect of the expenditures on organisational productivity (Grover et al., 1998b). Therefore, it is not surprising to see that the term "productivity paradox" is gaining increasing notoriety as several studies point toward fairly static productivity and rising IS/IT expenditure, e.g., Hochstrasser (1993).

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