

Chapter 17

Designing and Implementing an IT Evaluation Program

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When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the stage of science.¹

INTRODUCTION

The above citation demonstrates the importance of measurement and evaluation as tools for managers to find out what they don't know, confirm what they do, and decide how to act. While performance measurement and evaluation in general have always been very difficult, this is especially true for IT, where the role of IT is varied, the technology itself complex, and evolving IT services do not stand on their own, but rather contribute to a larger business enterprise. Although in recent years progress has been made in the development of approaches, techniques, operational measures and their relationship for *ex-ante* justification of IT projects and to some extent for the *ex-post* valuation of IT investments (van der Zee, 1996), many organizations still rely on measurement and evaluation approaches that are unclear about what to measure and why, or that resort to measuring only the easily measurable. Such "measurement and evaluation programs" are really a fragmented collection of detailed and disconnected technical measures which are bound to be abandoned after a few months of operation (Verdugo as cited in Duncan, 1991), since nobody is interested any longer. Executives and IT therefore feel that they could and should be able to measure more precisely and consistently, and be able to gain more leverage for improvement from continuous, systematic and relevant measurement and evaluation of IT.

Measurement and evaluation of IT should not be viewed as an end in itself, but rather as a significant component of overall management and, ideally, of some form of improvement program. To launch effective IT measurement and evaluation programs, they have to be systematically and cohesively designed, introduced and maintained, matching the right measures with the right purpose in the right context, to attain the long-lasting and embedded improvements sought. To enable focus on the relevant issues, a series of steps to follow is recommended. They are described in this paper.

THE ATTRIBUTES OF AN IT EVALUATION PROGRAM

Consistent evaluation of IT should be based on an overall management framework, a set of key measures, performance targets associated with selected measures, and an underlying information and reporting system:

- *An overall management framework:* IT evaluation has no intrinsic value in itself; its value is determined by its use in a broader management framework and therefore must be woven into a such a management framework that enables enterprises and managers to apply and provide the IT that meets business needs.
- *A set of key measures and associated targets for performance:* A spectrum of specific performance measures must be applied, to be used according to the objectives of evaluation. For each measure, an associated target for performance and performance improvement should be established.
- *Underlying information systems and reporting tools:* To measure performance on a continuing basis assumes the existence of fundamental management information systems. To provide continuous feedback, a routine reporting scheme should be in place, and periodic performance reviews must interpret measures and underlying individual performance (Nusenoff & Bunde, 1993).

Analogizing with the functions and attributes of, e.g., more familiar management accounting systems, the definition of an IT evaluation program can thus be expressed as: *the combination of an overall management framework, appropriate measures and associated target values, informational sources and tools to systematically and consistently assess the application of IT and the performance of IT supply, aimed at improvements in both.*

THE DESIGN OF AN IT EVALUATION PROGRAM

Given the range of frameworks, performance measures, reporting and reporting mechanisms available to include in an IT evaluation program, there is a clear need for a systematic approach to the design process. To derive an appropriate set of attributes for an IT evaluation program, four activities must be carried out, as illustrated in Figure 1 and further described below.

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