

Preparation Sheet for MI 703 Computer Information Systems
Session #9, March 21, 2007: Evaluating and Justifying IT Investments

Session Overview

In earlier sessions we focused on global questions related to IT strategy and management. With this session we begin a series of classes where we will drill down to more specific decisions related to *IT evaluation, development, adoption, and implementation*.

The goal for this session is to understand how potential IT investments can be evaluated and justified. While in some respects large IT investments are like any other capital expenditures, there are several features of IT investments that complicate the analysis. IT systems tend to be complex and intangible (compared to a buildings, property or equipment), which can make it difficult for decision makers to understand just what they are “buying” when they approve an IT project. The *benefits* of IT are also often intangible, which means their dollar impact can not be easily quantified. Also, the bulk of the benefits to be gained from IT will often only be captured if the organization is changed in ways that complement the IT investment. Finally, IT implementations are often encounter problems, meaning the ultimate outcome is subject to great uncertainty.

As a result, IT evaluation and justification is a complex process that requires both a *qualitative* and a *quantitative* analysis. The *qualitative* analysis considers organizational problems/opportunities, system features, system delivery options, organizational capabilities, and so on, in order to establish whether an IT investment is the best way to solve an organizational problem. The *quantitative* analysis attempts to put a specific dollar value on the financial impact of one or more candidate IT initiatives.

The first assigned reading for today is a book Chapter from Laudon and Laudon that does an excellent job of surveying different approaches to quantitative justification. The Moore Medical case, by contrast, focuses mainly on a qualitative analysis of whether Moore Medical should proceed with CRM and other IT investments (although some aspects of this investment can and should be quantified)

The first part of class will be devoted to analyzing the Moore Medical case. In the last part of class I will present a mini-lecture that covers some material from Business Value of IT lecture note, and examines specific techniques and concepts related to IT justification that reinforce and build on the material from the Laudon chapter

Required Readings and Study Questions

1. Understanding the Business Value of Information Systems, Laudon and Laudon, Chp 13 excerpt from Management Information Systems, 2004 (Coursepack).

- Familiarize yourself with the approaches to quantitative project valuation summarized in Laudon and Laudon. What are the pros and cons of these techniques? Have you worked in an organization where any of these techniques were used? How effective were they?
- It is quite possible for an IT investment to have a negative NPV, but a positive “option” value. Why? Can you think of an example to illustrate this situation?

2. [Lecture Note: IT Business Value: An Overview and Framework](#), Fichman, 2007 (MyFiles)
 - What was the “IT Productivity Paradox”? How was the paradox resolved?
 - The academic studies summarized in Table 1 all took much different approaches to demonstrating the business value of IT. Which of these studies do you find most convincing? Do you see any potential problems that might cast doubt on the conclusions of any of these studies?
 - Why and how do each of the five intermediate elements of the BV framework (B1-B4, C) magnify payoffs from a given level of IT investment?
2. **Case Study: Moore Medical Corporation** (Coursepack)
 - **Central Challenge:** Evaluating IT investments
 - **Preparation Questions:**
 - Which new information systems, if any, should Moore purchase? How did you arrive at this decision? Come to class prepared to present and justify your decision.
 - Can the likely financial benefits of any of the proposed new information technologies be quantified? If so, which ones? What are the benefits?
 - Why is Moore considering purchasing CRM? What are the various business needs they're hoping to address with this information technology?
 - What are the most important things that Moore does not know about its customers at the time of the case? What are the best ways for the company to obtain this knowledge?
 - What are the pros and cons of Moore's move into eCommerce/online ordering? Do you agree that this was a good move for the company?
3. **Optional Readings**
 - [Evaluation of Strategic Investments in Information Technology](#), Clemons, *CACM*, 1991 (MyFiles)
 - Of special interest is “Lesson One” (use of decision trees), “Lesson Three” (kinds of project risk).
 - [Getting Real](#), E. Mintz, *CFO*, 1999 (Web)
 - Provides a good general introduction on Real Options