MODEL ROI PADA RKE

Deskripsi:

The capital budget committee is likely to want both a cost–benefit analysis as well as pro forma financial statements, especially the balance sheet. The *balance sheet* describes an organization's overall financial position with respect to its total assets and total liabilities. From a pro forma balance sheet, the capital budget committee can study the impact of a large expenditure. Various forms of financing can be considered with respect to their impact on the balance sheet.

In addition to the pro forma financial statements, specific financial measures can be calculated based on the net impact identified from the cost–benefit analysis. The most common financial measures are the payback period, the internal rate of return, and net present value. It should always be remembered, however, that the numeric variables used to compute any of these ROI measures are imprecise. They are based on estimates.

Payback Period

The payback period is the number of years it takes to recoup expenditure. It is typically calculated by dividing the total cost of the project by the annual incremental cash inflows. However, if the annual cash inflows are variable, as in the example in table 11.1, the payback period is more readily calculated by dividing the total net impact by the total cost. For the example, this would be $12.40 million divided by $5.60 million, or 2.2 years.

Although the data in table 11.1, when presented as a table, are intuitive to some, it is often helpful to plot some of this information on graphs for visual effect. Such graphics are useful for presentations to executive management and especially boards of directors.

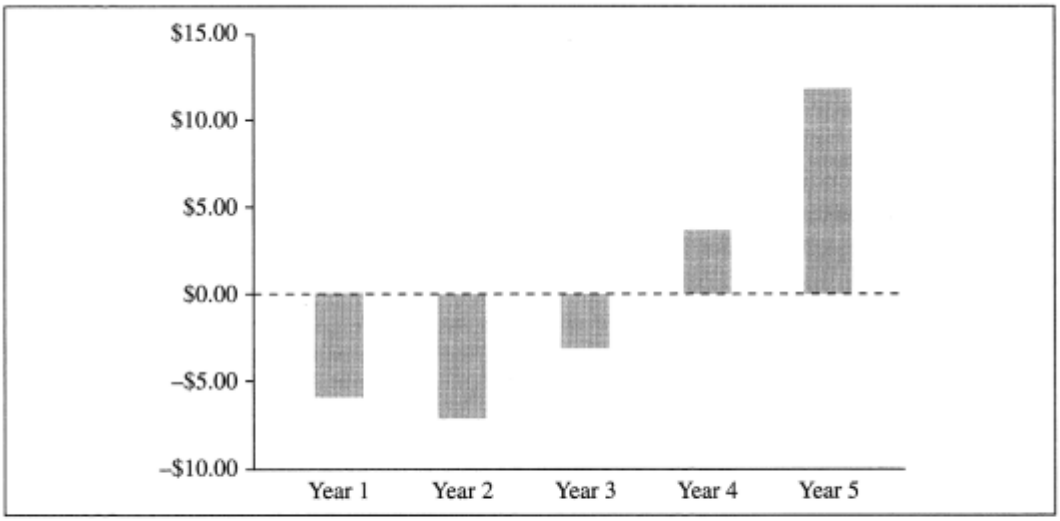
Some of the major pitfalls of the payback period financial analysis are that it ignores both costs and benefits that occur after the break-even point and the time value of money. By ignoring future costs, it may reflect an accelerated payback period. Figure 11.4 illustrates this concept; it considers the cumulative impact of the EHR, where the cumulative effect of both the project costs and the ongoing costs are not offset until year 4. Some financial analysts will use this as the payback period, instead.

By ignoring future benefits, the analysis ignores potential profitability. By ignoring the time value of money, it ignores the issue of how funds that make the expenditure are paid for or what the difference would be if the funds were invested another way.

IRR

Internal rate of return (IRR) is a financial measure that considers the time value of money. Its strict definition is the interest rate that makes the net present value calculation equal zero. This is the interest rate at which the present value of the projected cash inflows equals the initial investment. To calculate the IRR, a financial calculator, table of present values for an annuity, or a spreadsheet with IRR function should be used. For the example in table 11.1, the IRR is 42 percent. Financial analysts would compare this rate with the rate

Figure 11.4. Cumulative impact of the EHR



they could earn on other investments. If it is higher, investment in the project is good. If it is lower, the investment is not good (Anthes 2003). Some describe the IRR as the hurdle rate, because the IRR of the project being proposed has to pass the IRR of alternative investments.

Net Present Value

Net present value (NPV) is often considered the most precise method of cash flow analysis, although typically reserved for investments of long term, continual value. It uses the organization's cost of financing to determine the present value of incremental cash inflows and compares the present value with the cost of the project. The project is considered favorable if the NPV is positive. Again, a financial calculator or other tools are needed to perform the calculation. For the example in table 11.1, the NPV at 12 percent cost of financing is $13.92 million, which is favorable (Dunn 1999). NPV is not often used for EHR projects because the EHR is a set of components that change and are upgraded over time.

Business Case

After a cost–benefit analysis is compiled and ROI calculated, it is possible to create a business case. In some contexts, **business case** for a project simply means that the ROI projections are positive. In the more formal sense, a business case is a comprehensive document that compiles of all elements of a project's scope, context, goals, anticipated outcomes, value proposition, description of resource capabilities, and commitments to a project charter, plan, controls, budget, and deliverables (Hut 2009). The business case is often developed by a project manager, in consultation with the project's steering committee. It may be used to present to the capital budget committee for approval to go forward with acquiring the project. A business case may also be required when seeking a bank loan, selling bonds,

floating debt in tax-exempt equity markets, or using some other sources of funding (HFMA 2010). In this case, the CFO will work with the project manager to compile the content prescribed by the funding organization.

An important element of the business case for the EHR is that its formality can motivate an organization to be more diligent in its efforts to achieve real results. Ward and Daniel (2006) link the business case very closely to organizational change. They describe a benefits dependency network wherein benefits depend on stakeholder ownership of the project. Quite often, stakeholder ownership has been missing in EHR projects, especially in hospitals. Repeated calls for the EHR project to not be viewed as an IT project and for engagement of physicians and nurses have either gone unheeded or have been very difficult to accomplish. Now that there are questions about the true economic value of an EHR and the assertion that an EHR is a requirement for participation in the future healthcare marketplace, careful evaluation normally reserved for large investments such as the size of EHRs has been forsaken (Thompson et al. 2007).

Benefits Realization Studies

As described in chapter 5, a benefits realization study is conducted after the EHR has been implemented to determine that the benefits described in the cost–benefit analysis or ROI analyses have been met. The same tools and metrics used to conduct healthcare process assessment should be used to conduct the benefits realization study. This is both the benefits realization study's strength and weakness.

An impact analysis performed after EHR implementation without a baseline set of values relies on guesswork and is often influenced by satisfaction or dissatisfaction with the EHR. However, if a baseline set of values exists, comparison should be relatively straightforward. Unfortunately, the timeline for EHR selection and implementation is frequently anywhere from 2 to 5 or sometimes 10 years, depending on the migration path. Proponents of benefits realization studies suggest conducting the studies at designated milestones if the migration path is expected to be lengthy. In this case, interim ROI analyses also should be calculated as baselines. Even so, the biggest drawback to the accuracy of the benefits realization is the presence of confounding variables. Anything from a new physician leader to a new disease and everything in between—including changes in reimbursement structures, different accreditation processes, new legislation, and so on—can intervene and interfere with the accuracy of the calculations.

If it is found that an organization is not interested in a benefits realization study, it may be appropriate to consider conducting EHR benefits surveys that assess user satisfaction, overall financial performance, productivity improvements, quality improvements, and patient satisfaction. Such surveys do not depend on time-consuming quantification processes but can reveal successes and problems to be addressed.

Many healthcare organizations do not conduct benefits realization studies, often citing lack of time or skills to do so and the many intervening variables that may play a role in results. For example, when implementing a CPOE system, the implementation strategy may be to gradually introduce alerts, so as to avoid alert fatigue. Intervening variables associated with benefits realization for CPOE, then, may be the nature of the alerts and

how many physicians pay attention to them. Still, Classen and others stress the importance of continual evaluation of such systems. CPOE systems, in particular, have invited considerable scrutiny after some notable failures and unintended consequences. Benefits realization studies, if nothing else, will ensure that appropriate utilization of these systems is monitored (Classen et al. 2007). Others (Staren and Eckes 2009) also observe that "left unmanaged, financial benefits realization will never occur." Behkami et al. (2010) have found that "effective use of HIT approaches break-even point faster . . . than average or poor use of HIT" in clinics, with a business case serving as a dynamic policy intervention to improve adoption.

Healthcare is not alone in its challenge to perform benefits realization. Several studies of IS managers conducting benefits realization studies in all industries have found that, although quantifiably measuring and reporting the benefits of IS projects is considered important, evaluating project benefits after completion is seldom performed (Planview 2007) and too hard (Curran 2010). The evaluation of IS investments "requires multidimensional measures and is a complex tangle of financial, organizational, social, procedural, and technical threads" (Lin et al. 2005). It has also been pointed out that internal benefit realization studies can be made to show any desired outcome (Mello 2001). A final consideration for healthcare relates to the fact that under the current reimbursement process, benefits of IT investment accrue too many beneficiaries, not just to the entity making the investments (Vogel 2003).

New cost analysis and savings measures are needed to address the complex nature of healthcare today. Impact analyses are often time-consuming, and most benefits realizations studies are completed retrospectively. These approximate values suggest new metrics are needed. Classen et al. (2007) describes several approaches for evaluating CPOE systems, including internal organizational studies, vendor studies, certification of products, and the Leapfrog Group and National Quality Forum (NQF).

In healthcare, the bottom line is improved quality, cost, and access to care. Quality matters and improved quality does lead to lowering cost, even though such improvements cannot be directly quantified. In fact, Mello (2001) suggests that ROI analysis should not be used for projected intangible benefits or broad or necessary strategic initiatives. Whether or not your organization agrees, no EHR impact analysis would be complete without recognizing the nonquantifiable, intangible results of the EHR. The Healthcare Financial Management Association (HFMA) suggests the following are important nonquantifiable benefits of an EHR (HFMA 2010):

- Accessibility of data
- Decision support
- Service improvement
- Business management
- Streamlining of patient flow
- Legal/regulatory compliance
- Productivity enhancements

An example of better access to data includes increased productivity due to improved access to patient data. Following is a case in point:

> An EHR system had been implemented 18 months prior to a series of physician interviews about the EHR. When asked about the impact on documentation, most physicians indicated it took longer, a few said it took about the same amount of time as previously, and none indicated it took less time. When asked if physicians went home earlier, later, or the same time, they all indicated earlier or the same time, not volunteering, but agreeing with the interviewer, that there were significant time savings in other areas, such as in not having to track down missing data and not wasting time on the phone clarifying, checking, and correcting.

Decision support is the primary source of quality improvement. This may include decreased complications as a result of improved monitoring and preventive care reminders, reduced malpractice risk for failure to detect inappropriate care or for care omissions, and improved quality of care from giving clinicians information they need to make informed treatment decisions. It certainly is a hallmark of federal government's incentive programs, including where "core measures" have been required to be reported by hospitals to earn their full reimbursement under Medicare and, of course, the M.U. incentives.

Business management benefits contribute to improved ability to negotiate managed care contracts and improved financial management through the ability to relate clinical status to resource consumption. Streamlining patient flow increases patient satisfaction, improves efficiency in resource use from improved scheduling, and decreases patient no-shows and lost customers, among other things. As **accountable care organizations** (ACOs), a health reform method to improve continuity of care, and hence lower cost and improve quality, come into existence, the ability to calculate manage cost and patient flow will be essential in risk sharing.

Finally, legal and regulatory compliance is enhanced through compliance reminders, enhanced ability to protect patient confidentiality, and decreased interruptions to patient care as a result of appropriate backup and recovery mechanisms.

Any organization's list of intangible benefits to be achieved through an EHR should reflect its strategic goals.