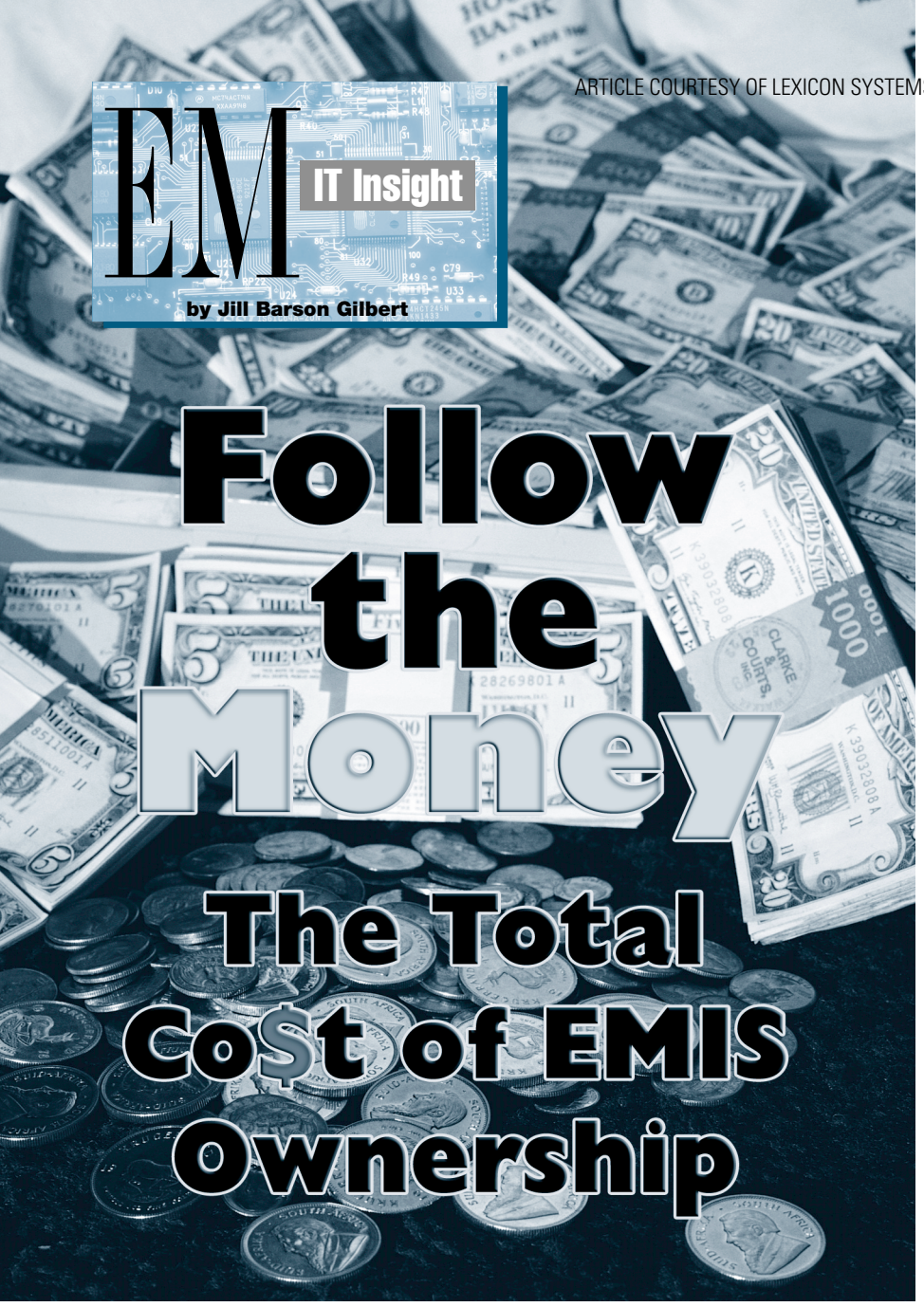
EM IT Insight

by Jill Barson Gilbert



Follow the Money

The Total Co$t of EMIS Ownership

How much does it cost to install a new management information system?

(a) The cost of the software licenses.
(b) The cost of licenses plus internal and/or external costs to populate the data.
(c) The cost for the information technology (IT) department to get the system operational.
(d) All of the above, and more.
(e) Too difficult to determine.

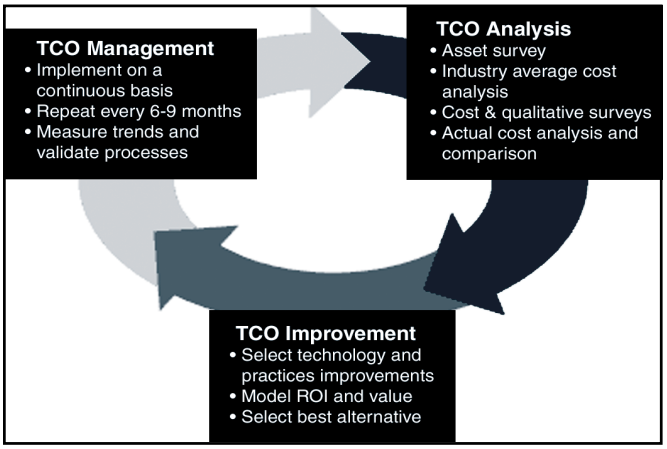
If you were confused by the multiple-choice question above, you are not alone (the correct answer is d). A recent Compaq Corp. survey of hundreds of financial executives and IT managers responsible for IT decisions revealed that only 1 in 25 realized that costs were incurred after initial deployment.[1] Environment, health, and safety management information system (EMIS) projects are no different. One should not rely solely on financial models to determine the cost of installation, as there are indirect costs and benefits that are difficult to quantify. However, companies can use a variety of financial methods, such as return on investment (ROI), economic value-added, and activity-based costing, to determine the value of an EMIS project.[2] Another method is to use the total cost of ownership (TCO) model, developed by Stamford, CT-based Gartner Group Inc. in the mid-1980s. Today, many leading-edge technology consulting firms, hardware, and software vendors employ TCO models to determine IT costs.

WHAT IS TCO?

Each TCO model captures direct (budgeted) and indirect (unbudgeted) costs. Models typically break costs into categories, such as capital costs, technical support, administration, and end-user operations.[3] Cost-of-ownership factors vary according to technology and environment. For example, a TCO model developed for a company-wide desktop computer deployment may differ from one for an enterprise-wide software system. The model for desktop computer deployment could emphasize the costs of installing a wired or wireless network, end-user computers, and the cost of user licenses for office software. In contrast, the model for an enterprise-wide EMIS deployment could assume the network and desktops are in place, with greater focus on software configuration and testing, data population, and user training. TCO models can help organizations understand

- the cost of different IT solutions;
- how much money is spent annually to implement IT;
- the rationale for IT decisions;
- where the money is being spent to manage the existing IT environment, including software, hardware, service, support, training, upgrades, procurement, policies, and change management;
- where to look for these costs; and
- how to manage costs to deliver a competitive advantage.

The Gartner Group's TCO Lifecycle Model uses the approach shown in Figure 1. The TCO model does not stop when you select a software solution; the methodology includes not only front-end analysis, but also implementation of best practices and ongoing measurements. The first stage in the life cycle is a systematic TCO analysis that allows for the cost of multiple alternative solutions. The second stage is the improvement stage, which



Source: Compaq Corp.

Figure 1. TCO Lifecycle Model.

focuses on best practices. As a rule, TCO does not address ROI, however, this is where Compaq inserts the value side of the equation. Organizations can derive the greatest benefits by evaluating their business processes against industry best practices, even if they decide not to implement a software solution. The third stage is ongoing TCO management, which provides for metrics to track the health of the automated system and allows for continuous improvement. If the predefined TCO metrics show trends in the wrong direction, it may be time to tune up or scrap the system, thus entering the analysis phase once again.

TCO MODELS

Costs incurred after the initial deployment of a new software system can account for as much as 80% of IT costs, yet many decision-makers focus on controlling capital costs rather than post-deployment costs.[1] According to a recent report by technology industry analyst and consulting firm Delphi Group, "Understanding the complete cost of a technology-based business solution is as critical as selecting the right technology platforms. But assessing the total cost of a project can be tricky."[4] Admittedly, accurately identifying and tracking IT costs can be a challenge; cost definitions vary among TCO models, multiple departments incur costs, and some costs may be hidden. Further, accounting mechanisms typically are not in place to capture these costs.

TCO methodology takes a holistic view of the systems solution and the business enterprise. It looks at the entire project, from pilot to rollout, allowing for a side-by-side comparison of different solutions. TCO models are useful because they not only show companies where to look for costs, but identify best practices common to all IT infrastructures. These best practices are agents of change to reduce IT costs.

Benefits of TCO Models

- Reveal costs and enable accurate measurement for the entire system life cycle
- Improve decision-making
- Sharpen forecasting and improve change control
- Improve IT cost management and budget controls
- Lower operating and maintenance costs
- Enhance performance and output
- Enhance productivity and functionality
- Generate higher customer satisfaction
- Provide standard, consistent data

DRIVING FACTORS

Organizations can help reduce EMIS costs when they make investments in three areas: training staff, streamlining processes, and acquiring technologies that are easy to manage, service, and support. Companies that aggressively implement such initiatives report large gains in IT efficiency and, as a result, significant reductions in their TCO. For optimal results, a balanced focus is required on all three primary factors driving TCO.[1] An overview of best practices includes

- People — training end users and IT staff to make best use of cost-controlling processes and technologies.
- Processes — automating some tasks and streamlining others.
- Technology — deploying IT systems that minimize or eliminate the widest range of labor-intensive tasks.

Many organizations use ROI models to identify the value of an IT project (i.e., the benefits and the payback associated with these benefits). TCO models do not provide an explanation of the benefits, as they strictly measure costs over time. But organizations can integrate TCO models with ROI models to get a cost–benefit analysis. The best advice I can offer is to use the services of a professional well versed in both TCO and ROI.

WHY USE TCO?

TCO models are not for everyone. In fact, some organizations shy away from using such models because of the initial cost of gathering and analyzing the data. For those who choose to use models, TCO can be a real eye-opener, revealing direct and indirect, obvious and hidden costs over the entire system's life cycle. But it requires the backing of senior management and the cooperation of business, IT, and management staff to be a success. While financial models do not capture all of the "soft" reasons to justify an EMIS, such as government agency initiatives, enhanced compliance management and risk reduction, best practices, and knowledge management,[2] the TCO model is a good fit for these types of systems. Because it addresses the entire system life cycle, TCO can help to identify the cost not only to install, but also to maintain and upgrade the EMIS system over its lifetime. The model can remove much of the mystery that often surrounds the cost of IT projects, allowing managers to make better business decisions.

REFERENCES

1. Compaq Corp. *TCO Models and Approaches*, December 2002; available online at http://h18000.www1.hp.com/tco/.
2. Gilbert, J.B. Financial and Other Reasons to Implement an Environmental Management Information System. In *Proceedings of the 94th Annual Conference & Exhibition of A&WMA*; A&WMA: Pittsburgh, PA, 2001; Paper 2001-963.
3. Total Cost of Ownership; *ComputerWorld* December 20, 1999; available online at http://www.computerworld.com, 12/4/2002.
4. Delphi Group. *Total Cost of Ownership (TCO)*, December 2002; available online at http://www.delphigroup.com/consulting/methodology/tco.htm.

About the Author

Jill Barson Gilbert, QEP, is director of EH&S management information systems at InteGreyted Consultants, LLC. She helps organizations increase business value by designing and implementing EH&S management solutions that leverage technology. A respected author and speaker, Gilbert chairs A&WMA's Information Solutions Committee. She can be reached at *JGilbert@InteGreyted.com*.