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Recalculating Total Cost Of Ownership

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TCO evaluations should go beyond the cost and performance of the mobile hardware.

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Total cost of ownership has always been an important factor in the design of enterprise mobility solutions, but traditionally the TCO conversation has been heavily hardware-focused. Companies focus on trying to balance the initial cost of the device with potential costs of replacement and downtime.

There's more to mobility than just the handheld computer or smartphone, though; for some applications, end users might even be providing their own hardware. Today's TCO analysis should be expanded to encompass the entire solution, including hardware, applications, communication, device management, and support, in order to give companies a more accurate view of what the mobility initiative will cost and how much ROI it will generate.

"In most cases, the TCO can be considered as every cost associated with the implementation, purchasing, supporting, and utilization of a product," says Clay Fazio, director of product management at Advantech. "Each of these elements can represent different costs, depending on the industry and the target application. Many customers start with a price expectation and ignore all of the other costs that affect the TCO. I think it is important for customers to identify their requirements and needs and then calculate the TCO, based on those findings."

The TCO analysis has to go beyond the direct costs and benefits of the solution, adds Brian Adamson, senior solutions consultant for mobility and managed services at Peak-Ryzex. "TCO is not just a measure of the investment in a solution and its cost of maintenance over time, but includes how a solution feeds to your overall enterprise mobility strategy to drive revenues, improve efficiencies, user experience, and ultimately increase a company's or organization's profitability," Adamson says.

How Do You Redefine TCO?

The TCO analysis should generally take into account the cost of hardware, application software, and installations services, as well as ongoing costs required to maintain solutions like maintenance, support fees, security, future technology developments, potential company growth, user experience and acceptance, training, and upgrades or additional interface requirements. Taking this broader approach allows companies to better evaluate what they can manage on their own and what elements of the solution could potentially be outsourced to a managed services provider, for example.

"Other considerations include user training and support for new employees after the initial deployment," says Greg Henry, senior VP of operations and software services at DecisionPoint Systems. "If you do not have the resources to add new users to the system, you need to make sure that you have an outsourced partner that can perform this function on your behalf."

Even on the hardware side, there are cost factors that cannot be overlooked, like the procurement cost of the hardware, lead times, shipping terms, and credit terms available from the vendor. Additional implementation costs can include product selection or development, time to market, testing, and application development. There's also the lost productivity that results when the hardware, software, or communications networks fail.

"Another cost that can impact the TCO is revision changes and costs due to component changes," Fazio says. "This is when customers need to evaluate an embedded vs. nonembedded (commercial/consumer) solution. There are several cost advantages with each solution, and, depending on the application, one may be more cost-effective than the other. Many consumer products only have a year or less of life expectancy. When a product or component changes, it could affect the customer's application, which may require extensive engineering time from the customer to implement the fixes for the component change or product change."

Don't Overlook End-User Acceptance

End-user acceptance is another element that is frequently overlooked, says Peter Poulin, VP of marketing at Motion Computing. "If the users don't fully embrace the technology that has been selected, deployment costs, support costs, and lost productivity rise rapidly," he says. "Many companies have recognized this, and as a result, IT organizations are getting the users deeply involved in technology selection. Delivering a solution that acknowledges the preferences of these end users has been a key success factor for those companies."

Poulin adds that understanding the cost of lost productivity is critical in this process. If a solution may require frequent updates or hardware replacement, it can erode the return on investment. "The business case for mobility is often built around productivity gains," Poulin says. "Productivity gains are the R in the ROI model, and for the business case to be viable R must be much higher than I."

New Technology Alters TCO Calculations

The nature and variety of elements that affect the TCO calculation have also changed over time. Cloud-based or SaaS offerings provide different cost models that may or may not save end users money, depending on the nature of the application.

"Most every industry is moving to cloud-based applications and the ability to purchase software solutions as a service," Henry says. "The benefits of SaaS include a lower-cost entry point and the ability to off-load the application and application hardware support to a third-party provider. As such, SaaS solutions are enabling smaller organizations to leverage field service technologies and provide the same service levels that were once only enjoyed by larger organizations."

Consumer-grade phones and tablets can work in fieldbased applications, but the TCO analysis has to take into consideration the relative strengths and weaknesses of those devices. "Now, enterprises face the more rapidly changing life cycles and security challenges of consumergrade mobile phones and tablets, which require them to rethink their deployment, management, and network/ device security strategies," Adamson says. "A well-thoughtout enterprise mobility strategy considers all forms of computing and communication components and integrates them into total solution for acquiring, deploying, managing, and optimizing their processes and life cycles."

BYOD's Impact On TCO

Bring your own device (BYOD) strategies and off-theshelf software solutions also impact TCO calculations, along with the availability of robust mobile device management solutions. "Mobile device management (MDM) is not necessarily new but has grown exponentially in the last couple of years due to the significant increase in smartphone usage for business applications," Henry says. "MDM not only provides various levels of device security but it also helps to ensure that devices are running the most recent version of all software releases while preventing unwanted applications from being installed on the device. Today's MDM tools are really the only practical way to deploy and manage mobile devices in the field."

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All of these elements have changed the cost structure of mobility solutions. In the past, hardware costs were figured based on the initial purchase price, plus annual maintenance. "However, with the explosion in use of consumer smartphones, customers can expect to replace their entire mobile device population every two years or sooner, depending on their environmental conditions," Henry says. "The same could be said for software. You would purchase the initial number of software licenses and server hardware and then pay a smaller annual maintenance fee. However, with SaaS the initial license fee is spread over the life of the solution."

With so many moving parts and so many ways to customize the deployment, there is no single element now that drives the TCO figure. "An enterprise mobility strategy will be built around a company's goals, objectives, security initiatives, back end system, processes, applications, systems requirements, user preference — and the list goes on — that are uniquely theirs," Adamson says. "There is no one-size-fits-all when it comes to determining what is most important in the TCO evaluation."

Cover Your Bases When Evaluating TCO

Even with all of these various elements taken into consideration, there are still pitfalls in TCO analysis that should be avoided. One of the biggest is trying to back a particular solution into a previously defined TCO figure.

"This is a huge mistake, in that the real total cost of a solution is the cost, and recognizing that cost up front will provide the organization with the required financial information to plan for future expenditures," Henry says. "TCO is only one of the many factors that should be included in solution selection and is not necessarily the most important. Other factors include the application match to the business need, capital costs verses expenses, vendor size and history, references, and so on."

Don't forget to factor in the cost of anticipated lost productivity, whether that is due to downtime or users resisting the new solution. Build in the cost of change over the full TCO period, as well. "Most enterprise IT organizations seek stability in their platforms, as this helps lower support costs," Poulin says. "This means infrequent changes to the hardware platforms, their software images, and peripherals required to support the solution. Most TCO models do not build this cadence of change into their models, and it varies widely, depending upon the solution that is selected."

Also, make sure that the cost analysis is a team effort. A mobility project that could potentially affect multiple operations and employees and have a direct impact on revenues should have input from multiple stakeholders. "In many cases, TCO analysis is being performed by a single individual, typically the purchaser/buyer for the company," Fazio says. "They are primarily focused on the unit price and purchasing terms, but they miss many of the important costs in their analysis."

That team should also be cross-functional. The mobile solution shouldn't be considered in a vacuum, but as part of a greater mobility strategy. "In today's world, mobile computing and communications enable real-time access and delivery of information across enterprise systems and devices, which enhance productivity and critical decision making and, ultimately, accelerate revenue generation," Adamson says.

Many companies and organizations look at aspects of their mobility systems with tunnel vision and completely miss that the TCO of those aspects is part of a greater business enterprise mobility strategy based on company goals, objectives, and initiatives. The key is taking a holistic approach to an organization's enterprise mobility strategy and determining how a solution reduces TCO and contributes to increasing efficiencies, revenues, and, ultimately, profitability."

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