



## ACCOUNTING MATTERS

# IT cost benchmarking: Drawing the right conclusions

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**Abstract** The use of managerial control ratios for benchmarking IT costs is widely accepted. This installment of Accounting Matters informs CIOs about IT managerial control ratios and the assumptions underlying the use of these ratios in IT cost benchmarking. Incorrect use of these ratios and violation of the assumptions can lead to faulty inferences and costly mistakes. This article proposes a technique for benchmarking IT costs to draw the right conclusions from the data.

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*Imagine the following scenario: You're meeting Monday with the executive committee. One item on the agenda has your full, if worried, attention: IT costs assessment. Stacked on the desk in front of you is a cost benchmark study. For the third year in a row, costs are significantly higher than the industry average. Further, the cost comparisons have worsened while the firm faces stagnant sales.*

## 1. Using benchmarking to justify IT costs

Managing and justifying IT costs is an essential responsibility of Chief Information Officers (CIOs). As the presented scenario illustrates, these

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responsibilities intensify during times of economic stagnation, when firms must search for ways of saving on costs. But even during periods of growth and expansion, IT managerial control ratios are at the heart of capital allocation decisions, which have operational and strategic impacts (Kobelsky, Richardson, Smith, & Zmud, 2008). A variety of IT investment evaluation methodologies can be used to analyze IT costs, including return on investment (ROI), net present value (NPV), internal rate of return (IRR), real options analysis (ROA), and the balanced scorecard (BSC). However, managers often reject these methodologies as impractical. Estimating IT costs and benefits is often difficult, expensive, and—in the case of estimated IT benefits—not entirely possible. Instead, CIOs turn to cost benchmarking to justify IT expenditures.

IT cost benchmarking compares IT spending against industry averages or best-in-class information systems (IS) organizations. Determining the

relative standing of one's IS organization, either in relation to other companies or business units in the same firm, provides support for extant or additional investments in IT. Comparisons can fuel cost-cutting initiatives or help justify higher spending levels.

## 2. IT managerial control ratios

IT managerial control ratios measure an organization's IT costs relative to its size and provide the analytic foundation for IT cost benchmarking. The ratio is a fraction with an IT cost variable in the numerator and an organizational size variable in the denominator (Nikkinen & Sahlström, 2004):

$$IT\ Managerial\ Control\ Ratio = \frac{IT\ Cost}{Organizational\ Size}$$

A variety of numerators and denominators have been used to measure organizational IT spending relative to size in practice and research (see Table 1). Trustworthy numerator and denominator variables should produce dependable ratios; however, each variable presents reliability concerns. For example, IT Spend is often used in the numerator of the ratio, but is not a reliable measure of organizational resources devoted to IT due to ambiguity surrounding what exactly constitutes an IT expense. To gather IT Spend data, IT market research firms survey senior technology leaders or chief financial officers (CFOs) regarding total IT expenditure of the firm. Yet, each individual's definitions/inclusions will vary. This challenge/weakness is illustrated by Brian Zrimsek of MRI Software (CIO Network, 2015):

IT spend as a percent of revenue is a very standard metric. What you need to be careful of are the definitions of what goes into your spend. As an example, telecom costs may or may not be in the IT budget.

Other 'hidden' sources of IT expense, such as depreciation of IT assets, are sometimes overlooked. All

this makes it difficult to obtain a reliable IT expense estimate. An alternative measure, IT Budget, is believed to be a less ambiguous and therefore more dependable measure of organizational financial resources devoted to IT. Unfortunately, it also, suffers from reliability problems. First, IT Budget does not include all IT costs; indeed, up to 30% of IT costs are believed to lie outside of the IT department (e.g., user training expenses; Mitra & Chaya, 1996). Second, using IT Budget as the numerator variable complicates cross-sectional comparison among companies, since organizations can be at different stages of IT infrastructure buildup. An organization with a mature IT framework may, for example, devote less money to its IT function as compared to an organization with an evolving IT function. As a result, budget levels will vary disproportionately with size.

Measures for firm size are used in the denominator, but they, too, suffer from limitations. Revenue can be too volatile a measure of organizational size, since income fluctuates from year to year (Brynjolfsson & Hitt, 1996). Employee count is less volatile in the short-term, but would make ratios sensitive to firm labor-capital mix. For example, high value of a ratio may reflect replacement of labor with IT; in this case, companies that appear to be inefficient users of IT resources may in fact be quite successful at replacing clerical tasks with cost-effective IT solutions. One work-around is to group and compare ratios by industry, as different industries may have different labor-capital mix. As explained by Catherine Hellebaut, ERP & IT Leader at 3M (CIO Network, 2015):

IT Cost to Sales is definitely the correct KPI [Key Performance Indicator] but the numbers are very different by industry (e.g., 6%–12% for banks, between 1.5% and 2.5% in industry, less than 1% in the construction industry, etc.

While a variety of numerators and denominators have been used in practice (e.g., Bartels, 2007) and research (e.g., Bharadwaj, Bharadwaj, & Konsynski, 1999; Han & Mithas, 2013; Qu, Oh,

**Table 1. Numerator and denominator variables**

IT cost variables	Organizational size variables
<u>Commonly used:</u> <ul style="list-style-type: none"> <li>• IT Spend (and its categories: hardware, software, personnel, etc.)</li> <li>• IT Budget (and its categories)</li> </ul>	<u>Commonly used:</u> <ul style="list-style-type: none"> <li>• Revenue</li> <li>• Employees</li> <li>• Operating Expense</li> </ul>
<u>Less commonly used:</u> <ul style="list-style-type: none"> <li>• Operating IT Budget</li> <li>• IT Stock (and its categories)</li> </ul>	<u>Less commonly used:</u> <ul style="list-style-type: none"> <li>• Assets</li> <li>• Selling, General, &amp; Administrative Expense</li> </ul>

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