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HOW TO MEASURE IT EFFECTIVENESS: THE CIO'S PERSPECTIVE

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ABSTRACT

Information technology (IT) continues to play an increasingly important role in today's businesses. As such, understanding IT and measuring its effect are imperative for the expansion and profitability of any business. This paper attempts to address the question - how to measure IT effectiveness - according to the CIO's perspective. In this paper, we first provide a review of the pertaining literature, focusing on the definitions, measurements, and theoretical models of IT effectiveness. Our ultimate research goal is to learn the CIO's perspective on measuring IT effectiveness in their organizations, so that we can develop an improved model for the measurement of IT effectiveness. This improved model can help current and future IT managers and business executives improve their abilities to measure IT effectiveness in their organizations, enabling them to maximize the effectiveness of IT in aiding their respective organizations to achieve their business objectives.

Keywords: IT effectiveness, measurement, chief information officer, CIO

INTRODUCTION

Information technology (IT) consists of all the hardware and software that an organization uses in order to achieve its objectives, reach its goals, and accomplish its missions [15]. Businesses today are under increased pressure as a result of global competition, changing marketplace, amplified complexity, economic uncertainty, and efficient innovation. As an enabler in shaping the past, present, and future business environment, IT has become more and more ubiquitous, and it has taken an increased prominent role within the business "as a means to achieve not only operational efficiencies, but increased firm productivity, and sustained competitive advantage" [17, p. 1]. A recent *Forrester* study, titled "5 key components of IT effectiveness," reports that 87% of US-based businesses admit that they cannot operate without IT [21].

Assessing the effectiveness of IT has long been an important issue to IT executives. According to Huff et al. [12], there is an IT attention deficit among corporate boards, and CIOs have repeatedly requested boards to pay more attention to IT-related issues, especially IT effectiveness. Because businesses are spending tremendous amounts of money and other resources on IT, finding answers to the question of IT effectiveness becomes imperative. To that end, our research question is: "How to measure IT effectiveness - according to the CIO's perspective." An influential *InformationWeek* article, "CEO-to-CIO mandate: Quantify business value of IT," suggests that modern CIOs face relentless pressure to prove the business value of the IT team and the IT budget [10]. In practice, however, effective management relies on effective measurement. As such, it is critical that we continue to improve the ways that we use to measure IT effectiveness in order to better manage IT.

While there exist metrics and instruments to assess specific IT sub-functions and specific IT subareas, the results generated with these metrics and instruments typically cannot be aggregated in any meaningful way. This limits their usefulness as the basis for identifying the sources of improving business effectiveness. While all businesses measure their IT effectiveness, each approaches the problem from different perspectives. Some use standard financial and technical measures; others use cost reduction, customer service-level agreement attainment, fiscal responsibility, security, and project excellence (see CIO Perspectives Data in Appendix A).

Our study seeks to do the following: (1) Illuminate how businesses measure their IT effectiveness, and (2) identify the most widely used metrics for measuring IT effectiveness.

It has been a recent practice of the magazine *InformationWeek* to publish a column of *CIO Values* or *CIO Profiles*. In the column, the featured CIO is requested to write a paragraph or two on "How I measure IT effectiveness." In the process of answering our research questions, we gathered textual data on IT effectiveness from the *InformationWeek* CIO columns and engaged in semantic analysis using NVivo [18] -- a powerful text mining software for qualitative data analysis -- to identify areas of IT effectiveness and ultimately develop an improved model for the measurement of the concept. By developing more informed IT effectiveness measures, we hope this research will contribute to the outcome of making the CIO a more effective manager, and the IT department a more effective organizational unit.

The paper proceeds as follows. In the next section, we review the literature, focusing on the definitions, measurements, and theoretical models of IT effectiveness. After that, we describe our research design and method. We then present our research results and conclude with a discussion of implications of our research findings and the directions for future research.

LITERATURE REVIEW

Definitions of IT Effectiveness

IT effectiveness has been defined in many different ways, each with distinct foci and dimensions [21]. In prior studies, the effectiveness of IT has been considered at both the operational level and the strategic level [4]. At the operational level, the impact of IT has been classified in terms of the improvement of business operations [2]. At the strategic level, the strategic impact of IT has been referred to as enterprise agility, which is the ability of a firm to sense and respond to change [2].

Kurien et al. [14] define IT effectiveness as "a measure of how well an IT organization develops the right technology components of business solutions for its customers" (p. 29). They have identified five key elements of IT effectiveness, including the IT blueprint, IT measurement framework, core IT, active business case, and rigorous change management. Specifically, they maintain that there are four key areas which collectively deliver IT solutions and operations to a business. The four areas are organizational effectiveness, delivery effectiveness, applications effectiveness, and infrastructure effectiveness. They also suggest that these four areas should be balanced and optimized among them.

By incorporating the work of Tallon et al. [22], Chebrolu and Ness [7] define IT effectiveness as "how well IT delivers products and services based on the needs and the requirements of the business" (p. 2). Avison et al.

[2] maintain that operational IT effectiveness focuses on the improvement of business operations. Bradley et al. [4] regard IT effectiveness as "the impact of use," and they continue to explain that "[use] is not the use of IT itself... but the impact or success of that use on or within the organization" (p. 102).

After analyzing all the available definitions of IT effectiveness (see Table 1), we define IT effectiveness as "a measure of how well an IT organization delivers products and services to improve business operations and enterprise agility, based on the needs and the requirements of the business, its internal users, and its core customers."

Table 1: Definitions of IT Effectiveness

Definition of IT Effectiveness	Source
"How well IT delivers products and services based on the needs or requirements of the business."	Chebrolu and Ness [7]
"The impact of use...it is not the use of IT itself... but the impact or success of that use on or within the organization."	Bradley et al. [4]
"Operational IT effectiveness focuses on the improvement of business operations."	Avison et al. [2]
"A measure of how well an IT organization develops the right technology components of business solutions for its customers."	Kurien et al. [14]

Measurements of IT Effectiveness

Determining the effect of IT is imperative for the expansion and profitability of any business. Measuring IT effectiveness, however, is a difficult task to accomplish since IT departments enable the functionality of other departments in the organization by correlating interrelated tasks. IT effectiveness within an organization improves the efficiency of both organizational needs and personal productivity, and the increased efficiency from the IT systems can have a favorable impact on an organization's effectiveness. Furthermore, measuring the effectiveness of IT used to be about the availability of infrastructure components, but is now about the reliability of business services and the end user experience. There are numerous measurements available for IT effectiveness, as shown in Table 2.

In the updated DeLone and McLean IS Success Model [8], the following six interrelated dimensions are used to reflect IS success: Information quality, systems quality, service quality, intention to use and use, user satisfaction, and net benefits. Numerous studies have only used one or two of the six dimensions to measure IT effectiveness. For instance, Remenyi and Money [19] used user-satisfaction, which is based on the gap between users' beliefs of what is important and their perceptions of what is delivered by the IS department, as a surrogate for IT effectiveness. In a research study by Chang and King [6], IS effectiveness was measured by systems performance, information effectiveness, and service performance. All three studies (i.e., Chebrolu and Ness [7]; Ness [17]; Tallon et al. [22]) used three elements to measure IT effectiveness: Overall quality of service, user's satisfaction with IT, and helpfulness of IT staff to users.

Table 2: Measurements of IT Effectiveness

Measurement of IT Effectiveness	Source
Information quality, systems quality, service quality, intention to use and use, user satisfaction, and net benefits	DeLone and McLean [8]
User-satisfaction	Remenyi and Money [19]
Systems performance, information effectiveness, and service performance	Chang and King [6]
Overall quality of service, user's satisfaction with IT, and helpfulness of IT staff to users	Chebrolu and Ness [7]; Ness [17]; Tallon et al. [22]
Governance, project delivery, support and maintenance, availability, and innovation	Shields and Nolan [21]
Overall IT portfolio, individual projects and applications, and IT function	Seddon et al. [20]
Improved effectiveness, improved communications, improved decision making, improved organizational responsiveness, and information systems as a whole	Gupta et al. [11]

Organizations must measure the effectiveness of IT by looking at data related to the performance of information systems being used within an organization. This deals with performance of IT for users within the organization. According to Shields and Nolan [21], IT effectiveness is based on the perceived value surrounding five key components of IT delivery. These components include governance, project delivery, support and maintenance, availability, and innovation. Increased strategic alignment of these five components could lead to exponential returns on IT investments or corporate performance. In order to be a truly IT effective organization, customer expectations must be taken into consideration.

IT evaluation can also be done by evaluating the overall IT portfolio, evaluating the individual projects and applications, and evaluating the IT function [20]. According to Gupta et al. [11], IT effectiveness is influenced by the following five factors: Top management, IT management, user satisfaction, organizational culture, and IT use. In their research, IT effectiveness was measured by improved effectiveness, improved communications, improved decision making, improved organizational responsiveness, and improved information systems as a whole.

Theoretical Aspects of IT Effectiveness

Organizations have continuously been driven to streamline IT across departments. This allows for improved data sharing, enhanced security, and superior transparency. The ultimate goal of achieving a high degree of IT effectiveness is to contribute positively to the profitability of business by enhancing functionality in business operations. This particular approach improves IT across departments in an organization, enabling a high level of performance by considering IT effectiveness of individual units instead of general applicability of IT.

Numerous research studies have examined theories of and subsequent models about IT effectiveness. Some use IT effectiveness as an independent construct/variable, some use it as a dependent construct/variable, while others use it as a mediating construct/variable. One of the most important aspects that deal with the effectiveness of IT is enterprise architecture, which involves principles and practices to guide organizations through business, information, process, and technology changes necessary to execute their strategies. Enterprise architecture focuses primarily on process standardization and data transparency. As process standardization and data transparency increase, so does IT effectiveness.

In their research on the business value of IT, which is part of IT effectiveness, Tallon et al. [22] maintain that the business value of IT is reflected by boosting the performance in the following six business areas: Process planning and support, supplier relations, production and operations, product and service enhancement, sales and marketing support, and customer relations. They found that management practices such as strategic alignment and IT investment evaluation contribute to higher perceived IT business value.

Bradley et al. [4] found that enterprise architecture maturity directly influences IT effectiveness for achieving strategic goals. They also found that an increase in operational IT effectiveness leads to an increase in enterprise agility. Antonelli et al. [1] indicate that at the individual level, IT impacts a person's work process (productivity, innovation, customer satisfaction, and management control) and decision-making process (intelligence, design, selection, and implementation). The research results of Ness [17] indicate that both strategic alignment and IT flexibility positively influence IT effectiveness, and that IT flexibility has a stronger relationship with IT effectiveness in comparison to strategic alignment.

Aligning business and IT strategies is critical if a firm wants to be competitive and successful. Avison et al. [2] found that strategic alignment positively influences IT effectiveness, which in turn increases the margin of business profitability. Lu and Ramamurthy [16] studied the link between IT capability and organizational agility. They conceptualized and measured IT capability in three dimensions: IT infrastructure capability, IT business spanning capability, and IT proactive stance. They also conceptualized two types of organizational agility: Market capitalizing agility and operational agility. Their findings suggested that more IT spending to enhance and foster IT capability leads to greater organizational agility. In a study of IT impact on organizational flexibility, Batra [3] found that IT has an impact on all three types of organizational flexibility: Operational flexibility, structural flexibility, and strategic flexibility. The combination of these three types of flexibility (i.e., the overall organizational flexibility) impacts organizational performance, which in turn improves the organizational effectiveness.

IT effectiveness is also related to how the CIO is perceived according to his or her analytical, leadership, and managerial skills inside an organization. According to Earl and Feeny [9], the CIO's ability is determined by whether IT is viewed as an asset or a liability, and how it adds value to the organization. Strategic management of technological assets within a company is critical for IT effectiveness [17] and for leveraging IT towards sustained competitive advantage [5]. Ingevaldson [13] found that implementing a system of audits after an IT project has been implemented helps show the effect that IT systems have on the end-user.

In summary, as shown in Figure 1, the following constructs/variables positively influence IT effectiveness: Enterprise architecture, business/IT strategic alignment, IT investment evaluation, enterprise architecture maturity, IT flexibility, IT spending, and strategic management of technological assets. Also, the following constructs/variables are positively influenced by IT effectiveness: Enterprise agility, individual's work process and decision-making process, organization agility, organizational flexibility, and sustained competitive advantage. We sought to determine the extent to which these concepts were represented in industry by engaging in an investigation of CIO imperatives for IT effectiveness.

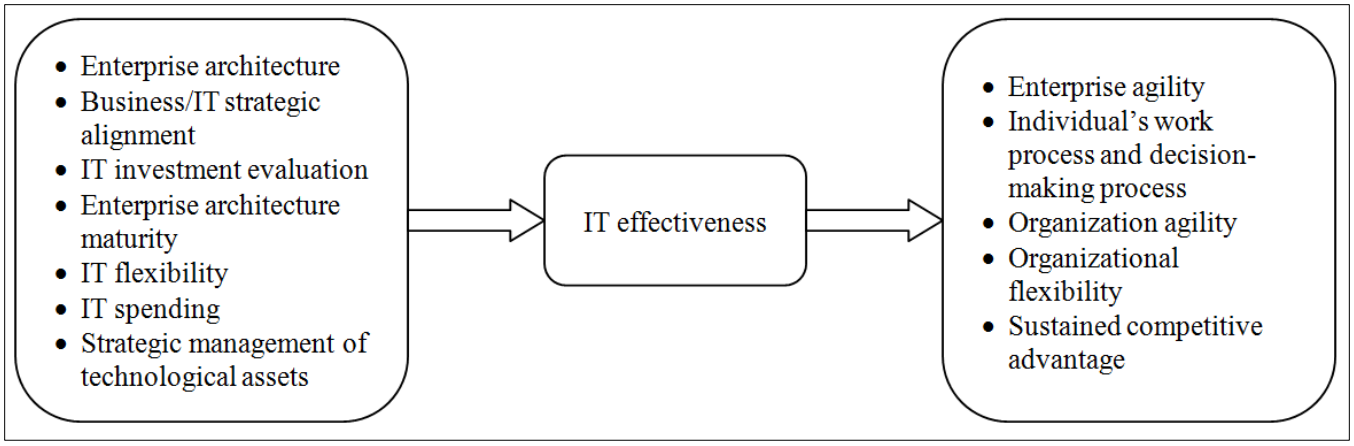

Figure 1: Theoretical Aspects of IT Effectiveness

RESEARCH METHOD

We collected information on key values and profiles of CIOs from the *InformationWeek* series on CIO perceptions. Fifty-nine *CIO Values* and 109 *CIO Profiles* were derived from this resource. In these, 121 out of the 168 CIOs surveyed had responded to the question "How I measure IT effectiveness." We transcribed these 121 perspective statements and other useful information items into an Excel file for subsequent textual analysis. The nine information items that were transcribed include: Year (of publication), Name (of the CIO), Title (they typically have more than one title), Company (which company they are with at that time), Colleges/Degrees (they have attended/obtained), How Long at Current Company (in years), IT Budget (in millions of dollars), Size of IT Team (number of people), and most importantly, How I Measure IT Effectiveness (see CIO Perspectives Data in Appendix A; note that only three information items, i.e., Name, Company, and How I Measure IT Effectiveness, are included in this appendix because it is difficult to fit all the information items in). Three of the nine information items are numerical, and their descriptive statistics (maximum, minimum, mean, and standard deviation) are shown in Table 3.

Analysis was undertaken in two ways: Collaborative work session analysis and textual analysis in NVivo [18]. In the collaborative work session analysis approach, we held multiple collaborative work sessions with the research team. In each work session, we analyzed the CIO perspectives, and for each perspective, we tried to identify all the methods used for measuring IT effectiveness. When a new method was found, we would add it to the expanded list of methods for measuring IT effectiveness. We discussed, debated, and deliberated on each method in order to reach team consensus. When differences persisted, we would reach consensus through majority rule. After we had analyzed all the 121 CIO perspectives, we obtained a list of methods for measuring IT effectiveness.

Table 3: Descriptive Statistics of Three Numerical Information Items

Information Item	**Maximum**	**Minimum**	**Mean**	**Standard Deviation**
How Long at Current Company (in years)	35.00	0.50	8.95	7.59
IT Budget (in millions of dollars)	9,970	0.75	414.44	1,290.25
Size of IT Team (number of people)	17,000	3	1,154.66	2,226.45

With the NVivo text analysis tool, we developed frequency counts for descriptive terms from word search queries of the 121 CIO perspectives. We were able to obtain the tag cloud of IT effectiveness indicators and a list of IT effectiveness related terms and their corresponding frequencies.

RESULTS

Collaborative Work Session Analysis

By analyzing each and every of the 121 CIO's perspectives in the collaborative work sessions, we generated a total of 42 ways to assess IT effectiveness (see Appendix B). The top 12 most frequently used methods for measuring IT effectiveness are shown in Figure 2. Of these, customer satisfaction tops the list, as should be. But, ranking at comparably high levels are the measures related to project performance and operations milestones. This is intuitive in as much as customer satisfaction is directly dependent upon effective operations in service of corporate performance supporting customer needs. Systems performance factors, including systems availability, systems performance, and systems performance metrics embedded in the SLA concept round out the middle range of effectiveness measures, financial performance factors notwithstanding.

Taken together with the thematic analysis of CIO perspectives of systems effectiveness, an interesting picture emerges in which IT effectiveness is clearly benchmarked in the financial performance of the firm but which is more pragmatically assessed via metrics related to customers and their operational support. In the rubric of the market-oriented firm, this makes sense because on the one hand customer satisfaction is the basis of all financial performance over time, whereas on the other hand satisfied customers require dedicated precision of operations in support of customer-focused products and services. Technology is central to achieving each end, it would seem and should be.

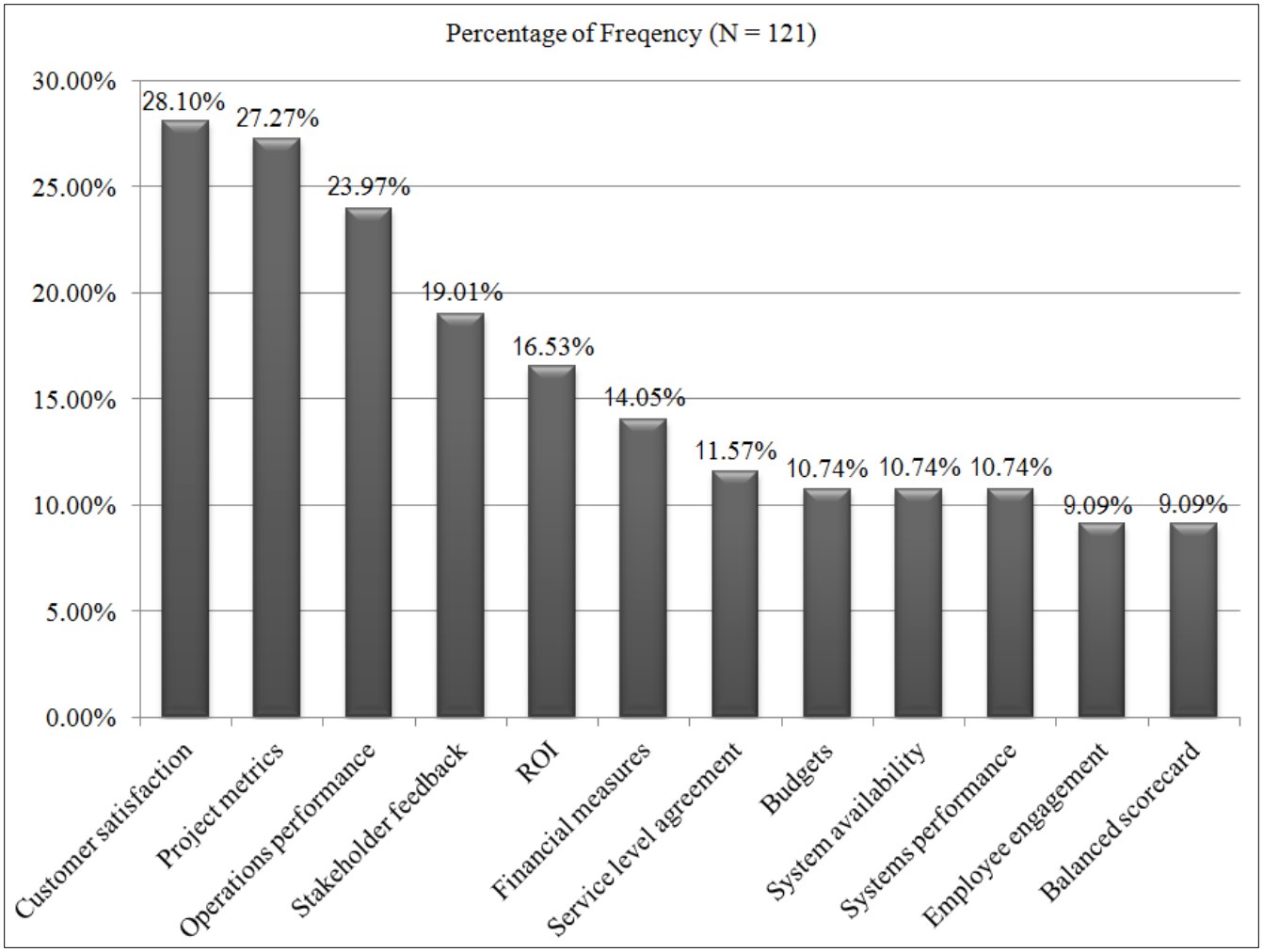

Figure 2: Top 12 Methods for Measuring IT Effectiveness

Textual Analysis in NVivo

Using the word search query in NVivo 11, we developed frequency counts for descriptive terms from the 121 CIO perspectives. These descriptive terms are displayed in graphic format in a tag cloud shown in Figure 3.

Figure 3: Tag Cloud of IT Effectiveness Indicators

As shown in Table 4, when considering the frequency count analysis, twelve top themes arise rather clearly, with only a small amount of overlap or duplication. Compared to the graphic tag cloud format, as shown in Figure 3, the direct assessment of the frequency count table is a more effective approach for identifying the likely top-twelve effectiveness indicators among the group of 121 CIOs.

The process of parsing the word count list required some discernment, though. For instance, the most frequently noted term "business," with 66 total mentions across the group of CIOs, simply has little meaning on its own as an indicator of IT Effectiveness; nor would terms like "metrics" (48 mentions), "measure" (47 mentions), or "also" (21 mentions).

An initial degree of interpretive assessment was required in parsing the word frequency list for meaning. We were looking for descriptive terms that spoke to a quality of system performance or outcome which clearly indicated or described aspects of effective performance.

Table 4: Top 12 IT Effectiveness Themes

Rank	Count	Theme
1	50	Finance/ROI/Investment/Revenue
2	48	Customers
3	40	Costs/Budgets
4	36	Satisfaction
5	30	Service
6	26	Tie between Performance (26) & Success (26)
7	25	Value
8	24	Effectiveness
9	22	Operations
10	17	Tie between Support/Help (17) & Management (17)
11	15	Initiatives
12	9	Work

Of the terms that made sense as indicators of effectiveness, the most prevalent were represented in a semantically similar combination of terms that were clearly financially related. As can be seen, with combined mentions 50 times across the four similar terms, the group of descriptors that included "finance," "ROI," "investment," and "revenue" indicated a clear sense across the group of CIOs that effective systems were ones that contributed to the financial bottom line of the company. Financial performance returning to the bottom line of profitable operations was clearly the leading IT effectiveness measure among this group of executives. We broadly construe this as *Financial Effectiveness*. As noted in Table 4 - our list of the top 12 indicators of effectiveness - bottom line financial performance factors represent the #1 indicator of effectiveness.

Systems exist to serve the need of constituents. In most IT governance rubrics, constituent user groups are considered "customers," whether internal or external, since users who require effective systems performance can be internal customers seeking to apply systems to work needs or external customers seeking to use systems for revenue producing purchase operations. The terms "customer" and "customers" appear a combined total of 48 times across our sample, indicating a strong feeling among our CIO sample that system support for key user needs is a primary indicator of effectiveness. To that end, our second highest indicator of effectiveness of the top 12 list of themes is *Customers*.

The executives in our sample clearly felt that systems that were highly effective in practical terms were also cost effective. It is one thing to produce revenue; it is entirely another thing to produce revenue in a cost-

contained environment where the larger portion of revenue can contribute to profitability. Different from return to bottom line in effective performance, the notion of inexpensive operations clearly held sway among the executives. With combined mentions of 40 times across the three similar indicators, terms like "costs," "budget," and "cost" were highly indicative of effective systems performance assessed by the lack of expense realized for good IT applications in support of business. Hence, *Cost Effectiveness* is our #3 indicator of effectiveness.

The fourth highest effectiveness measure was a single indicator, "satisfaction," which was mentioned 36 times. Effectiveness was clearly indicated by user appreciation for system performance. As was the case in our second highest-ranking theme, Customers, systems that support users in ways that are important to their work are important. Thus, *Satisfaction* is our #4 indicator of effectiveness.

The fifth highest effectiveness measure spoke to the notion of the customer interface through service provided by the system. Mentioned 30 times, *Service* is indicative of the clear realization that effective IT systems provide valued support to their users.

For the sixth highest effectiveness term, we actually encountered a tie in number of mentions between two terms. Performance and success both garnered 26 mentions, apiece, and in a sense, they can be taken as semantically similar, hence our #6 effectiveness measure was *Success/Performance*.

Value was the next highest rank effectiveness term. Ranging back into system characteristics perceived as cost-effective as well as satisfactory in use, our #7 indicator, *Value*, is a notion that embodies both parsimony in cost and significant return in performance. Getting something good for a very good price is one way of thinking of value. Another way of thinking of value lies in the nature of performance that matters and is held in positive regard. In this sense, effective performance is that which gets the job done in a way that is parsimonious of resources.

On that note, our next highest indicator is circular and trite, but bears consideration all the same. *Effectiveness* garnered 24 mentions for the #8 position. While this is an assessment of the characteristics that CIOs consider as marking effective systems operation, it bears special consideration that effectiveness as a descriptive term would be mentioned so frequently. Systems that are designed to get the job done and do so well are effective and prized by executives; to say that managers want effective systems is an understatement, and one which is doubly reinforced by the very term, itself.

Any CIO will prize operational reliability, and the combined terms of Operational and Operations speak to this theme. Mentioned in combination 22 times by our respondents, *Operations* is our #9 indicator of effectiveness.

IT Support is omnipresent in the world of technology in the workplace. The combined terms of Support and Help speak to the way in which effective IT systems can provide operational support to users. Mentioned a combined total of 17 times, Support ties with Management for the 10th position in our ranking. This is an interesting confluence of terminology, since good managerial theory would certainly endorse the notion that support for getting the work of the company done is a key managerial task. Although too much should not be read into the notion, the fact that *Support and Management* tied at 17 mentions apiece for 10th place is worth thinking about.

In 11th position in our chart of effectiveness measures, *Initiatives* counts 15 specific mentions across the sample. This could be taken several ways. One is that information systems are key components of strategic corporate initiatives. Another is that information systems are initiatives of specific moment and concern for the company, as they provide such essential support to the work that is done, well documented in the rankings above.

Lastly in our top-12 list, the term *Work* generated 9 mentions across the sample. Effective systems are deployed in support of the work of the firm, and systems that are well-designed and well maintained have the effect of greatly facilitating the important work of the organization. Systems exist for the facilitation of work; this is the characteristic that identifies our #12 term.

DISCUSSION AND CONCLUSION

Our several analyses involved identifying themes for characterizing as well as means for measuring IT Effectiveness, drawn from an extensive report of the views and concerns of key industry CIOs. Thematically, it is clear that the financial performance of the firm is top-of-mind among the CIOs of modern industry. This speaks to several important implications, notably the increasing levels of responsibility for overall firm performance among technology executives in the C-Level suite, and the impact that technology clearly has upon firm financial performance.

Characteristics of firm performance effectiveness spanning the financial, costs and budgeting, and the production of value predominated our list of thematic aspects of corporate performance, from the CIO's perspective. Operational aspects of performance also were indicative, spanning customers and their service and satisfaction, and the effectiveness of corporate operations. But, considering both the frequency of occurrence and ranking of thematic elements related to the notion, bottom line aspects of per-

formance from a financial perspective dominated the outlook of CIOs.

This investigation takes a qualitative approach to understanding CIO concerns about IT Effectiveness, arising, as it does, from archival records of CIO viewpoints. While rich in meaning and understanding, drawn as it is from the insightful commentary and considered evaluation of highly skilled industry professionals, the approach is limited to richness and depth of meaning and does not necessarily extend to broad-based generality beyond the context of the data from which our conclusions are drawn, to wit the specific considerations of a group of 121 industry executives. Further investigation should seek to expand the perspective across a broader range of executives as well as other key stakeholders of IT in order to support more general conclusions and predictions arising from the analysis presented here.

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Ali Murad attended the University of North Alabama (UNA) as a full-time student. Ali graduated in December 2017 with a Bachelor in Business Administration. He double majored in Computer Information Systems and Finance, and minored in Mathematics. During his time at UNA, Ali interned at Northwestern Mutual as a Financial Representative. He followed this with an internship at Steele Financial Group as a Research and Development Intern where he conducted research on web development and application integration. Ali is currently working as a Financial Analyst in Training for Parallon (HCA), where he conducts data analysis and builds financial models.

Adam Risher is a graduate of University of North Alabama with a Bachelor of Business Administration in Computer Information Systems. When not attached to the keyboard, Adam enjoys hanging out with his dogs and playing board games with friends. Adam currently works as a contractor in the Huntsville, Alabama area.

Jordan Simmons is a System Engineer at Dragonfly Athletics, where he builds applications to support the business in the sports medical industry. Jordan has previous experience working on an e-commerce platform that handles thousands of different products. He attended the University of North Alabama (UNA) where he received a B.B.A. degree in Computer Information Systems. While he was at UNA, Jordan was involved in different extracurricular activities including Phi Beta Lambda, the Association of Information Systems, and undergraduate research.

APPENDICES

Appendix A: CIO Perspectives Data

Name	Company	How I Measure IT Effectiveness
Ajay Waghray	Verizon Wireless	Both return on investment and a superior customer experience are paramount. To ensure that we're delivering real value, we stay focused on how our work affects our customers, our employees, and our shareholders.
Amin Kassen	SHPS	Capital productivity: Making sure developers are working on development projects; Repeat work: The ratio of the number of bug fixes to new development; Agility: The ability to respond to client needs quickly and accurately.
Andy Blumenthal	Bureau of Alcohol, Tobacco, Firearms and Explosives	It's all about the mission of the bureau delivering capabilities that citizens want, need, and can use.
Anuj Dhanda	PNC Financial Services	We measure our success with operational excellence metrics, key risk indicators, employee engagement, and financial measures, including the ratio of spend on investment to maintenance activities.
Aurelia Boyer	New York-Presbyterian Hospital	We track the standard metrics around service, projects, budgets, etc. But what I truly measure our success by is the institution's ability to meet all of its goals, which requires effective support by information technology. I'm proud when IT is acknowledged as a contributor to the successful accomplishment of the hospital's goals and the leadership team acknowledges the work of the IT in making their success possible.
Avid Modjtabai	Wells Fargo	We have the standard financial and technical measures, but also try to manage perception. We instituted an internal partner survey to get feedback, which is critical to help us drive alignment with the businesses we support.
Barry Vandevier	Sabre Holdings	We look for a positive net present value within three to five years, depending on the project, its strategic value, and its expected return. Success metrics include customer satisfaction; productivity; such as IT spending compared with revenue; and operations and reliability, such as product availability.
Becky Blalock	Southern Co	In our IT department, we seek customer ratings on projects. We also evaluate the net present value on projects delivered. We have a monthly IT management report that's comprised of 62 metrics, including goals, financials, project performance, operations performance, and people. Additionally, we participate in a utility IT benchmarking program.
Bill Brown	Iron Mountain	We're investing a great deal of effort in assessing and communicating the business value of IT.
Bill Martin	Royal Caribbean Cruises	The best measure is one that describes how much value you're adding to the company. We have scorecards and metrics for just about everything, but truly getting to the value add is deeper than the metrics you have to understand that some metrics, while popular and interesting, have nothing to do with adding value.
Bob Lento	Convergys	We measure IT effectiveness as a portfolio of assets across several categories, including financial, operational, and talent. Within each of these categories are four to six key metrics that are supported by performance indicators, each managed within a statistical process control model.

Name	Company	How I Measure IT Effectiveness
Bob Sarnecki	Phoenix Children's Hospital	We use standard defined hospital metrics, such as customer satisfaction, performance against budget, etc. Another true effectiveness measure that's less tangible (yet equally important) is the delivery of technology in a way that helps our patients and the people who care for them. Our metric for this is the response from individual physicians.
Brian Flynn	Crawford & Co.	We've created a comprehensive ROI tool that helps drive decisions by detailing our investments in technology and defining financial improvements in a profit-and-loss format. We also use IT employee engagement surveys and a project delivery dashboard, among other methods.
Brook Walsh	GreenStone Farm Credit Services	Operationally, we talk about accomplishments in our status reporting every week. Strategically, we have three departmental service-level agreements for the project management office, systems availability, and incident management. We also leverage a variety of benchmark data (i.e., IT spend as a percentage of revenue) to see how we stack up against the competition.
Bruce Livesay	First Horizon National	I use a monthly scorecard containing quantitative and qualitative metrics for three items: IT operational service delivery quality, business value delivery (via project execution and resource management), and IT risk management.
Bruce Livingstone	Getty Images	Each project has an individual timeline and success metrics. When those aren't met, I look at how well we responded to changing demands, how clearly we communicated with management about change requests and their implications, and how we resolved or averted crises.
C. Scott Blanchette	Healthways	Confidence is the only metric that is of consequence. I'd gauge confidence across three domains: (1) Board, senior management, and peer confidence that you're an astute and trusted business partner who understands and supports the mission, vision, and goals of the company. (2) Customer confidence in your strategy and ability to execute. (3) IT organizational confidence that your leadership and commitment will provide a directional beacon in good times and bad.
Casey King	LifeSize	As a young company, the success metric we used most often was, Does it work, and can we afford it? We've rapidly evolved from that stage and, as a result, our IT department is evolving to support our growth. For instance, as we continue to grow, our processes need to change along with the supporting systems. Also, we recently hired a very experienced director of IT, and that will make a huge difference in bringing our IT operations in line with where we are as a company.
Chad A. Eckes	Cancer Treatment Centers of America	Factors include improvement of patient care and safety as a result of IT systems; increased efficiency of clinical processes; and internal customer satisfaction, including the patient and those caring for the patient.
Chris Corrado	Asurion	We use several metrics. First, we measure the productivity of an IT dollar as invested in improving the company's technology. Second, we track system availability and performance. Third, we use the management tool Net Promoter to measure our service desk and project customer satisfaction levels.
Chris Perretta	State Street	First, we're zealous about compliance and security metrics. While we use a variety of measures to ensure we're meeting the needs of the business, the feedback we get from internal and external customers is very important. This input has led to our focus on delivery cycles to ensure we're keeping pace with market developments.

Name	Company	How I Measure IT Effectiveness
Christopher Rence	FICO	We measure IT effectiveness in how it impacts our business operations, our personal work environment, and our environmental footprint. We aim to have IT decisions make our business run more efficiently.
Craig Lathrop	Americas' SAP Users' Group	Web site metrics and activity levels; high marks and continual up trends from our member surveys; help desk ticket data-open/close ticket rates, time to resolution, etc.; and an engaged, informed, recognized team.
Dave Barnes	UPS	We use a balanced scorecard that has a strong focus on relevant customer and business metrics that address all lines of business. In addition, we look at project and program specific metrics
Dave Flanagan	Lionbridge Technologies	Our most tangible measure of ROI is in telecom costs. For example, we implemented Microsoft's Office Communications Server to cut telecom costs by $500,000. By the end of 2007, we had a run rate of savings well over a million dollars.
Dave Goff	Emulex	Close working relationships with all functional areas are critical. They're the ultimate judges -they let us know if we're meeting their expectations.
David E. Otte	Sidley Austin	Surveys, focus groups, and personal interactions with our lawyers and clients
David R. Guzmán	Acxiom	Cost reduction expense as a percentage of revenue by line of business; Customer service-level agreement attainment; Fiscal responsibility consistently beat budget; Security external and internal vulnerabilities reduced, independent audit confirmation; Project excellence on time, within budget, goals achieved.
David Rowe	Echo Global Logistics	At a high level, I look at metrics such as user satisfaction, sales wins over our competition, the cost of IT as a percentage of gross profit, and service-level agreements. At a detailed level, we have tools, dash-boards, and reports that let us measure just about everything: services and database performance, application response times, transactional volumes, and much more.
Deb Horvath	Washington Mutual	For every dollar invested in technology, we should get an average of at least two back. It will be significantly higher for revenue-generating initiatives and can be lower for foundation programs. We strive for less than two-year paybacks and a higher number of growth projects to foundation projects.
Denis Edwards	Manpower	Our metrics are designed to demonstrate how we're contributing to the company's revenue, efficiency, innovation, thought leadership, and organizational goals.
Denis Stypulkoski	Tygris Commercial Finance	First, I measure our launch build-out IT effectiveness through our ability to meet milestones in our major IT projects. Second, our team measures our service delivery every day through direct feedback from our customers, as well as the Tygris management team and employees.
Dennis Strong	McCoy's Building Supply	All of our major systems are totally integrated and real time, so tracking application availability is critical. ROI is always measured for major projects. A unique measure of effectiveness is the feedback we seek from our internal customers on how IT interacts and treats them.
Dom Nessi	Los Angeles World Airports	We have a detailed IT strategic plan that outlines our critical objectives. Meeting those needs is our primary objective. We have a strong governance process that ensures new IT projects are necessary and achievable.
Don Campbell	Cognos	In terms of innovation, we measure new product revenue as one measure of success. We also measure patents filed, as well as the contribution of ideas and experiments in our labs.

Name	Company	How I Measure IT Effectiveness
Donald H. Hopkins	SunGard Availability Services	Since IT is primarily a service provider, the most critical metrics are those that measure the IT organization's performance against its published service-level agreements.
Douglas Caddell	Foley & Lardner LLP	As I'm a former CPA, you would think that I was metric driven. Honestly, I measure our results by client service and satisfaction, of both internal clients and clients of the firm.
Ed Trainor	Amtrak	Contribution to achievement of business objectives, service-level agreements, and budgets. As I said earlier, it's all about the business, and our success as IT practitioners is measured only by the success of our business. There's no truer dashboard of metrics than to be measured through our internal business partners.
Edwin Marcial	Intercontinental Exchange	Our technology initiatives are aligned 100% with our business initiatives. If we execute our technology, then our business is successful.
Eric Williams	Catalina Marketing	The bottom line: overall company sales. IT develops and operates the company's production systems, so everyone in IT watches our sales.
Frank Modruson	Accenture	An IT scorecard that measures 24 performance and satisfaction metrics that businesspeople can relate to.
Girish Varma	Qwest Communications	The mission is simple enable the delivery of a quality customer experience and deliver new customer capabilities. Every efficiency IT introduces means a gain in our ability to do more of just that. For example, through programs like data center consolidation, maintenance cost reduction programs, and server virtualization and consolidation, IT has reduced business costs significantly. This frees up resources that Qwest feeds back into delivering innovative solutions to our customers.
Greg Miller	Advanced Health Media	The best measurement is customer satisfaction. Everything else is just a number.
Gregg Davis	Webcor Builders	I'm not a true believer in most ROI studies since I can get them to say almost anything I want. We do use metrics from our systems to measure our effectiveness, but it's happy, productive employees that really matter. We've won numerous awards for the best place to work!
Ian Patterson	Scottrade	99.9% of our business is conducted on our Web site, so customer satisfaction is our most important metric. Also, employee buy-in and acceptance of new products is critical.
James Knight	Chubb	You can only effectively manage what you measure. To date, we've used fairly standard—and vague— metrics and dashboards to measure IT effectiveness, but they aren't enough. Over the past year, we've been establishing clear metrics for the expenditure of IT resources and the value contributions coming out of IT. The cornerstone of our new metrics is enterprise implementation of CA's Clarity across all of IT to track time and manage both demand and resources. Tools like this will help us build business cases for our projects, track the true cost of IT projects, and, in turn, create accurate measures of ROI.
James Krause	CME Group, a CME/Chicago Board of Trade Company	We do a lot of customer satisfaction surveys-surveys of our end users, the people actually trading. The results from these are key for me and my team since they let us know if we're doing our job. We also can measure our success through the growth in electronic trading as well as two important electronic trading measures: speed and reliability.
James Mazarakis	T. Rowe Price	Our ability to deliver on spec, on time, meeting our budgetary requirements. The success of a project in meeting the original need specified. There's always an ROI target that we try to meet. We approve $1 million-plus projects on a three-year TCO.

Name	Company	How I Measure IT Effectiveness
Jason Harrison	Mediabrands	The first measure is ROI: Do the benefits of the project justify its cost? Does the project lower our operating costs? Does it generate additional revenue? Second, we look at salary and related salary as a percentage of revenue. This is an advertising industry standard that helps you determine whether you're truly improving processes or just throwing people at problems. The third is adoption. If people are happily using a new technology, we believe they're benefitting.
Jeanette Horan	IBM	We base this on business value delivered via new projects (both hard and soft), as well as on business process availability
Jeff Liedel	General Motors OnStar	Information technology is behind the OnStar product, service, and brand reputation. We measure ourselves by the satisfaction of our subscribers and the success of the business. We base this on regular customer satisfaction surveys, ROI on features and investments in service enhancements, service renewals, and typical IT measures such as uptime and system performance.
Jeffrey Sorenson	United States Army	Standardized tools provide persistent asset visibility and reporting, vulnerability scanning and compliance reporting, remediation, configuration management, security alerts, etc. We're using the Army Strategic Management System for a collaborative and automated way to report and review performance management metrics and data.
Jim Jones	Great River Energy	The most important indicator is customers and business partner satisfaction. We ask them to rate our performance as well as for suggestions on how we can improve.
Jimmy Wang	Teva Pharmaceuticals Americas	We use the typical IT measures of scope, budget, ROI, schedule, etc. but ultimately it's our ability to add real value and meet the needs of our business that determines if we're effective.
John D. Halamka	Beth Israel Deaconess Medical Center	Infrastructure success is measured as 99.99% uptime. Apps are measured by user satisfaction and workflow improvement. We've cut emergency department length of stay by 45 minutes per patient.
John P. Burke	Ambit Energy	IT provides our business detailed transparency on all project requests, including ROI analysis and alignment with Ambit's annual strategic plan. We measure our effectiveness based on our ability to accurately budget and deliver projects. We also measure success through weekly system-uptime reports.
Jon Stevens	CDW	We look at the answers to these questions: How are we serving our customers? How are we working and collaborating with customers? What's the quality of the products and services being delivered? How are we doing in sales?
Jorge Mata	Los Angeles Community College	We have the traditional metrics and key performance indicators that revolve around dollars. In addition, we include measures such as student success and initiatives that address our core mission.
K. Ananth Krishnan	Tata Consultancy Services	We use a balanced scorecard approach for measuring all functions, including innovation, research, and internal IT. Sample measures include financial impact on the business and internal and external customer satisfaction benchmarking.
Ken Harris	Shaklee	One metric is customer satisfaction, but at the senior executive level. It involves interaction with the executive committee, asking, "Are you getting what you need? Who in my organization is working with you?"

Name	Company	How I Measure IT Effectiveness
Ken Silva	VeriSign	Aside from the quality of your applications, one of the most important elements of an IT organization is its availability. It doesn't matter how good something is if your customers can't get to it. By measuring uptime and availability as a metric, you can understand which components might need attention. By tracking uptime and availability at the component level, you can see where trouble spots are.
Kirk Gutmann	General Motors' Information Systems & Services, Global Manufacturing & Quality	I look at cycle time, throughput, and cost per unit, as well as the competitive advantage we attain from a marketing and sales perspective.
Kyle Quinn	PACCAR	Return on investment to the business as a result of projects across our business units is a key measurement of success. We also measure effectiveness through adherence to our service-level agreements and the contribution IT makes to new product and services that drive our growth.
Larry Stofko	St. Joseph Health System	Our tools include a quarterly performance report card, an annual customer satisfaction and executive survey, help desk follow-up and resolution surveys, and contractual SLAs. We're working on an IT balanced scorecard to tie it all together.
Laxman Kumar Badiga	Wipro Technologies	An important metric for us is when our people supply chain systems deliver an improved bottom line through better utilization. Also when there's a reduction in people traveling for collaborating on projects, that's an important measure of effectiveness.
Lee Congdon	Red Hat	Have an annual set of objectives that you map out with business partners. Review them every month. I am a technologist by background, but I'm business-centric as well. Balance what can be done technically with what needs to be done for business requirements.
Lynn Willenbring	City of Minneapolis	Internal customer satisfaction, measuring all elements of our operation, is our most critical measurement. If our customers are dissatisfied, it doesn't matter how efficient our operational metrics show us to be we wouldn't be successful. We also have 38 SLAs with our outsourcing provider, as well as benchmarks.
Manjit Singh	Chiquita Brands International	The most basic, yet important, metric I use is the number of business partners who seek me out to discuss new business initiatives and how IT can help support them, versus the number who seek me out to complain about IT service delivery.
Marc Brown	Del Monte	We measure IT effectiveness through direct alignment of our initiatives with delivery of our corporate business strategy, the Accelerated Growth Plan. Each project in our portfolio is prioritized against growth drivers--productivity improvement, building core brands, and accelerating innovation--and measured against specific business benefit targets.
Marc Probst	Intermountain Healthcare	Completing projects in the time frames and budgets set (about 65% successful); meeting our service-level agreements; and completing our agreed-to goals for a year and coming in within the budget we agreed to meet.
Marina Shabin	Sterling Commerce	The satisfaction of our business constituencies is key to IT's success. Systems performance, meeting service-level agreements, and delivering superior network availability are like oxygen-they just have to be there. Real value is determined by whether the enterprise feels IT is doing its part in propelling the business forward by making it nimble and responsive to the market.

Name	Company	How I Measure IT Effectiveness
Mark Brewer	Seagate Technology	We have a balanced scorecard that measures costs, operational matters, employee efforts, and other data points. We're financially focused on our IT work and initiatives, and we think in terms of costs to scale and costs to sustain.
Mark Dajani	Kraft Foods	Our IS Scorecard measures performance of delivery and delivery management. It includes project health (time, budget) and project outcomes (growth, income, employee engagement, and client satisfaction). Our customer satisfaction and IS employee surveys measure and identify what our clients and our own employees expect and need from IS.
Mark Greenlaw	Cognizant	Customer satisfaction, measured by an internal satisfaction survey. Project performance: We measure this using red/yellow/green reporting. Schedule variance. And actual vs. budgeted project ROI. CEO's view: I want our CEO to think he has the best IT organization (and hopefully, the best CIO) in the industry.
Mark Schissel	Herbalife	We measure the effectiveness of our day-to-day operational support as well as project delivery. We set service-level objectives for operational support that are measured and shared with our internal customers. Our project proposals require a clear business case that outlines the ROI and how the initiative will align with our business strategies. And we leverage metrics and a project dashboard to measure the effectiveness of project delivery.
Marty Colburn	Financial Industry Regulatory Authority	ROI is a key metric for technology initiatives, and the business case needs to include both initial development costs and subsequent maintenance costs. For operations we measure reliability, serviceability, and subsequent maintenance costs. Our development methodology is very iterative and automated. For example, we typically deliver code weekly through automated deployments and testing. That way, we don't get to the end of the project with missed expectations or a high number of software defects.
Maryann Goebel	Fiserv	IT should be measured in the context of its mission. For example, IT as a percentage of revenue isn't relevant to all IT organizations. There are five areas that IT effectiveness should be measured on: achievement of strategy, delivering capability, operational excellence, financial stewardship, and employee engagement and development. These five items are the basis of our scorecard every year.
Meg McCarthy	Technology, and Service Operations, Aetna	We measure our success by a company scorecard. We also track on a variety of metrics, including those specific to timeliness and quality, business partner satisfaction, and the availability of our infrastructure.
Michael Cuddy	Toromont Industries	I monitor traditional spend-to-plan and results-to-plan. However, my key assessment of our group's effectiveness is feedback from senior and line-of-business management. If they're more effective and gaining a competitive advantage, they know it and say so. If not, we have a problem, no matter what the reason.
Michael Fuqua	Global Crossing	We measure contribution to business development priorities in terms of new products, productivity improvements, and efficiency, and we use a scorecard of key IT measurements, including labor contribution to service revenue, system availability, various cost-per-unit areas, and internal customer-support satisfaction.

Name	Company	How I Measure IT Effectiveness
Michael Manchisi	Mastercard Global Technology and Operations	"You can't change what you don't measure," as the adage goes. We measure platform performance against Six Sigma; we compute transaction volume globally. In 2008, MasterCard won the Connect (formerly Internation Tandem User Group) NonStop Availability Award for the fourth time in five years.
Michael Mediterraneo	Cambridge Integrated Services	For new projects, I utilize ROI via cost-benefit analysis prior to and after implementation.
Michele Goins	Juniper Networks	1. Project portfolio delivery performance 2. Service-level agreement performance 3. Employee satisfaction 4. Meeting financial commitments
Mike Foley	MassMutual	We ask ourselves these questions: Do our business partners believe they're receiving excellent value for their IT investment? Is there high operational stability? Is there strong project execution and quality delivery? Is the IT plan explainable in a way that parallels the business strategic plan?
Mike Kobayashi	Ross Stores	Besides the classic metrics, such as ROI and customer satisfaction, I use more top-line metrics, including: The ratio of time I'm spending on new capabilities vs. nondiscretionary operations; the amount of time I spend managing my IT vs. business responsibilities; and the types of discussions I'm having with my boss and my peers. That is, are we talking about IT more in the context of operational and finance results or about complaints of system performance and IT responsiveness?
Mujib U. Lodhi	DC Water and Sewer Authority	We use the typical service-level agreement model and service catalogs, and adhere to our commitments in that model. Our governance model involves six layers of governance that include multidepartmental participation to make sure we're meeting business objectives.
Murshid Khan	Stewart Information Services	Stewart does this in a number of ways. Decisions made on core business strategic initiatives are justified based on ROI. Success is measured by on-time and on-budget delivery. We do an online customer survey on a weekly basis. The average customer satisfaction rating is 92% with the goal to move to 98%. IT metrics for systems and networks as well as monthly customer satisfaction survey ratings are given to the company leadership team on a monthly basis.
Patricia Coffey	Allstate Insurance	We scorecard across a number of dimensions including company metrics (e.g., revenue, expense ratio), value metrics (e.g., individual project contribution to the company, impact to customer service), and effectiveness metrics (e.g., project delivery, labor cost).
Patti Reilly White	Darden Restaurants	We use several methods and metrics to measure our effectiveness. Using identifiable targets, we track how our team spends their time on value-creating initiatives and measure whether our initiatives are delivered on time and within budget. Overall internal client satisfaction with our IT services is the foundation that must be delivered consistently to allow us to work on initiatives that drive the business.
Paul Heller	Vanguard Group	We measure IT effectiveness on three levels: the project itself (NPV, ROI, a business case), at the portfolio level (examining investment spending across the firm along key dimensions), and finally the effect an initiative will have on our key success criteria such as top quartile long-term fund performance, industry-leading service, and low costs.
Paul Valle	Papa Gino's Pizzeria	By putting the right infrastructure in place to distill consistent financial and operational information that increases efficiencies and provides management with improved visibility into daily performance.

Name	Company	How I Measure IT Effectiveness
Peter Campbell	Sprint	My team looks at all the traditional IT metrics such as on-time/on-budget project delivery, expenses as a percentage of revenue, and IT Moose (maintenance, ongoing operations, systems, and equipment). The most important indicator of success is knowing that we support the business by enabling increased sales, reduced costs, new product launches, and tools to combat churn.
Peter Whatnell	Sunco	In the current economic climate, the short-term focus is very much on IT delivery cost and business process efficiency. Therefore, this year's measurement focus is all around the benchmarked costs of IT services.
Phil Fasano	Kaiser Permanente	In patient outcomes: through our initiatives and our electronic health record, KP HealthConnect, Kaiser Permanente has been able to drive significant reductions in deaths from heart disease and breast cancer.
Phil Tuggle	Southwire	We have several standard metrics and constantly work to add others that better characterize the performance of our team. Ultimately, our success is measured in terms of delighted customers.
Raj Rawal	Burger King	By ensuring alignment in projects, meeting commitments, and making sure that we do an effective job. We gauge our success through an annual survey as well as executive team feedback through a steering committee.
Ramon Baez	Kimberly-Clark	Service-level agreements are great, but customer satisfaction and value creation are the best measures. I'm also an advocate of this question: Are we generating the business benefits we proposed with our strategic initiatives?
Randall Poppell	UniGroup	There are many ways to measure the effectiveness of IT. From a financial perspective, running IT like a business and managing to the bottom line provides a strong foundation. Operationally, delivering projects on time and below budget is essential to build credibility with business partners. But the foremost measurement of IT effectiveness is your business partners' assessment of whether the technology investment is generating the expected business value.
Randy Gross	Computing Technology Industry Association	I look at our customer-service response times and ability to decrease downtime through process and system performance. Also, I look at total cost of ownership for system implementations.
Raymond Voelker	The Progressive Group of Insurance Companies	It's important to follow effectiveness in different ways. Among the ways we do this is financial throughput, measured as net benefit divided by net present value of labor cost. One other way is by measuring quality, including the frequency and severity of systems outages and defects in production.
Rick Peltz	Marcus & Millichap Real Estate Investment Services	We conduct help-desk surveys from each agent after he or she receives service from our department. The index rates each agent's satisfaction with the service call. For the past five years, we've rated better than the Help Desk Institute's average index.
Rick Roy	CUNA Mutual Group	We measure IT effectiveness through the business value is delivered, how the project is aligned with business strategy, and thought leadership in the technology. We use a project scorecard as our gauge for tracking the business results and value. Before a project is approved, it must also have a clear plan to generate business results within six months. If it doesn't, we need to question why we're doing this project.
Rob Shostak	Vocera Communications	Whether you are managing an internal service organization or creating products to sell outside the company, the happiness of your customers is usually the best indicator of your success.

Name	Company	How I Measure IT Effectiveness
Robert Keefe	Mueller Water Products	Achieve the highest level of involvement/accountability with management, staff, and business partners in new IT initiatives while flawlessly maintaining current systems and technologies. Are we improving faster than the competition and exceeding our customers' expectations?
Robert L. Geller	XO Communications	We examine operational and project metrics to ensure that our systems and projects are meeting expectations. We also do field visits to obtain feedback on how well our systems are doing at solving basic business problems. Finally, we've developed a robust prioritization model to assess the value of each IT project.
Sasan Goodarzi	Intuit	We depend on net promoter scores, which gauge the likelihood of a customer recommending our services to colleagues, to drive IT decisions.
Sondra Barbour	Lockheed Martin	When the phone isn't ringing, things must be going well. In all seriousness, we use the standard litany of IT metrics, but I personally track how often our company's business areas are calling on us to support efforts related to their external customers. This helps me understand if we're acting as an effective resource account for them. I also look at how effectively we're reducing our operational and maintenance budgets while increasing our investment budgets.
Stephen Bozzo	1-800-Flowers.com	I generate a set of metrics, including project statistics, for senior management to review on a biweekly basis.
Steve Hannah	CRST International	The IT team reports to the business on 20 key items, including hardware performance, help desk call resolutions, software development resource allocations, and computer operations efficiencies. We continue to examine these metrics annually and update accordingly.
Steve Olsen	CheckFree	Each IT initiative must stand on its own based on its ability to drive customer value that can be monetized into either increased revenue or reduced costs.
Steve Phillips	Avnet	For investment projects, we look at payback interval: length of payoff time based on benefits created
Steven Mcintosh	Jackson Family Enterprises	We measure our success on whether we hit particular project goals
Suzanne Gordon	SAS	We do customer satisfaction surveys and calculate ROI on major projects and purchases. We also have an IT Governance Council that keeps us on track.
Suzanne Kosub	Concentra	Concentra ranks each business unit annually, including the technology organization. This allows us to understand the satisfaction of end users and make improvements.
Tasos Tsolakis	Iron Mountain	Some of the key metrics we use are measurements of business team and customer satisfaction, expense to revenue, and on-time delivery and defects in the first month of production.
Teri Takai	State of California	In the public sector, it's based on providing value to the state's residents and businesses.
Tim Theriault	Walgreens	Walgreens measures company goals and divisional goals annually. This past year, the IT department also implemented a customer satisfaction survey measuring IT effectiveness as a primary goal. We use a series of metrics to measure effectiveness. They focus on human resources, hardware and software utilization, and operating effectiveness. For example, our average hourly cost for app development and maintenance has been reduced by 37% in the past two years.

Name	Company	How I Measure IT Effectiveness
Tom Conophy	InterContinental Hotels	We measure success against shareholder value, based on the Dow Jones World Hotels Index as well as a set of key performance indicators.
Tom Gosnell	CUNA Mutual Group	We use a Balanced Scorecard to measure our success
Tom Peck	Levi Strauss	I'm a big fan of the balanced scorecard, which we update monthly. We measure various metrics across IT, such as the benefits we deliver, stewardship items like budget vs. planning, maintenance spending, and more. We also take stock of user-experience metrics and operational metrics.
Tom Tabor	Highmark	Strategic capability delivered on time, within budget, with business-case-realized benefits

Appendix B: All 42 Methods for Measuring IT Effectiveness

Term	Frequency	Percentage (N = 121)
Customer satisfaction	34	28.10%
Project metrics	33	27.27%
Operations performance	29	23.97%
Stakeholder feedback	23	19.01%
ROI	20	16.53%
Financial measures	17	14.05%
Service level agreement	14	11.57%
Budgets	13	10.74%
System availability	13	10.74%
Systems performance	13	10.74%
Employee engagement	11	9.09%
Balanced scorecard	11	9.09%
IT cost	10	8.26%
Customer service	8	6.61%
Achievement of business objectives	8	6.61%
Business value of IT	7	5.79%
IT-business strategic alignment	7	5.79%
Value creation	7	5.79%
Customer experience	6	4.96%
Business benefit	6	4.96%
Impact on revenue	6	4.96%
Process improvement	6	4.96%
Delivering capabilities	5	4.13%
IT measures	5	4.13%
Cost reduction	5	4.13%
Risk management	5	4.13%
Productivity	5	4.13%
Sales	5	4.13%
IT performance	5	4.13%
Net present value	4	3.31%
Product/service quality	4	3.31%
Product/service development	4	3.31%
Employee talent	3	2.48%
System use	3	2.48%
Security metric	3	2.48%
Contribution to new product/service	3	2.48%
Employee satisfaction	3	2.48%
Impact on people	3	2.48%
Team performance	2	1.65%
Product/service improvement	2	1.65%
Compliance metrics	2	1.65%
Product/service acceptance	2	1.65%