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IT Key Metrics Data 2016: Executive Summary

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This research contains enterprise-level IT investment, cost and staffing metrics, as well as business productivity ratios for 21 vertical industries, collected throughout 2015 from a global audience. It provides an overall summary of the IT Key Metrics Data: Key Industry Measures published research.

Key Findings

- Average IT spending per employee increased to $13,537 in 2015, and is projected to continue to increase in 2016. However, this headline cross-industry perspective, hides the fact that there is a much greater level of change occurring in different industries, both increases and decreases, and that the rates of change vary.
- Average IT spending increased by 3.2% in 2015 and is expected to increase by a further 3.1% in 2016.
- Average IT spending as a percent of revenue and average IT spending as of percent of operating expenses have both taken a small upward turn after a number of years of slow decline, and in 2015 were at 3.4% and 4.3% respectively.
- In 2016 IT spending as a percent of revenue is projected to remain at the same level as 2015, while IT spending as a percent of operating expenses is projected to drop back by 0.1 percentage point to the 2014 level.
- In 2015 the average distribution of IT spending between run, grow and transform the business activity saw an increase in run by 3 percentage points compared to previous years (at 70% of IT spending). And the distribution between capital and operational spending also saw the capital percentage decrease by a similar amount to 27%.
- IT full-time equivalents (FTEs) as a percent of total employees declined from 5.1% in 2014 to 4.8% in 2015.
- Regionally, Asia/Pacific still has the lowest levels of IT spending as a percent of revenue and IT spending as a percent of operating expenses, despite an increase over 2014 levels. North America has the highest averages and remains at similar level to 2014. IT spending per employee decreased in EMEA compared to 2014, while all other regions saw an increase.

Recommendations

- Use this research (or your Gartner ITBudget Tool comparison report) as a source of comparative data to assist IT and enterprise leaders with fact-based decisions related to investments, planning, budgeting, ongoing operational assumptions and identification of quantitative best practices.
- These measures should be considered in the creation of future-state (both short- and long-term) objectives to quantify IT planning assumptions and to better understand niche or industry competitive drivers, inhibitors, conditions and trends.
- Use of this information should be considered the beginning of an ongoing measurement program. Organizations should consider investing in customized, refined, prescriptive or in-depth benchmarking engagements on a recurring basis to support the budget cycle, or whenever making significant, fact-based IT or business decisions.
- Review "Best Practices to Drive Cost and Value Optimization in IT Management" and the other Gartner Recommended Reading at the end of this document for additional perspective on leveraging IT Key Metrics Data.

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Analysis

How Does Your IT Organization Stack Up Against the Competition?

IT and enterprise leaders are challenged constantly with dynamic market conditions, wherein the organization is evolving and technology is changing. The 2016 edition of the Gartner IT Key Metrics Data (ITKMD) series provides insight into the latest industry trends to help enterprises change, make fact-based decisions and help answer key questions similar to these:

- Are you measuring the alignment between business and IT?
- Are your staffing and investment levels competitive in infrastructure and operations?
- Are you measuring your technology performance?
- Can you prove the success of current and future IT investments?

Big enterprise changes require fact-based decisions regarding IT investments and costs. A critical evaluation of IT capabilities — past, present and future — is the cornerstone of delivering business value. In general, clients find their journeys with benchmarking are more successful by participating in surveys, and in effect, they "get better at benchmarking by doing benchmarking.

This research provides an overview of the key findings on spending and staffing trends from leading organizations around the world and also provides the current comparison data included in the Gartner ITBudget Tool (see gartner.com/itbudget).

IT Key Metrics Data Research Background

The Gartner ITKMD series of reports was established in 1995 to support strategic IT investment decisions, and today the annual publication delivers more than 2,000 metrics, across 96 documents and covers 21 different industries. Allowing you to rapidly identify high-level IT spending, staffing, technology and performance trends.

In an ongoing effort to study, analyze, evolve and improve enterprise performance, Gartner drives a number of initiatives to continuously capture IT data and information from the greater Gartner client

and non-client community to support the growth of the database, the industry insight and the published IT metrics series. We invite you to participate in and contribute to the study to represent your vertical industry and region. The Gartner client community provides an exemplary window into the global IT community, and, therefore, your participation is essential to this publication series.

To contribute to Gartner ITKMD research, start a survey and represent your industry and region. Surveys are available at: gartner.com/surveys.

IT Key Metrics Data Key Industry Measures Overview

This research contains relevant cross-industry averages and ranges from a subset of metrics and prescriptive engagements available through Gartner Benchmark Analytics consulting-based capabilities. While cross-industry averages are indicative of enterprise IT spending levels, actual spending will vary around these averages when considering the variations of unique competitive landscapes, niche vertical industry subsectors, business scale, and IT complexity and demand, which may be justified by specific enterprise needs. These factors typically drive the context of an IT cost or performance evaluation and often dictate long-term support requirements. Ultimately, business value IT spending and staffing data should be used as a high-level directional indicator and in the creation of planning assumptions — not viewed as a prescriptive benchmark in which significant budget decisions are made.

For detailed information and metrics specific to each of the listed ITKMD vertical industries, see Table 1 or review "IT Key Metrics Data 2016: Index of Published Documents and Metrics" for a comprehensive list of all available IT Key Metrics Data 2016 research.

Table 1. ITKMD Key Industry Measures: Vertical Industry Document Index

Document	Current Year	Multiyear
Executive Summary	G00291328	
Small and Midsize Enterprise Executive Summary	G00291329	
Cross-Industry	G00291337	G00291338
Banking and Financial Services	G00291339	G00291340
Chemicals	G00291341	G00291342
Construction, Materials and Natural Resources	G00291343	G00291344
Consumer Products	G00291345	G00291346
Education	G00291347	G00291348
Energy	G00291349	G00291350
Food and Beverage Processing	G00291351	G00291352
Government — National and International	G00291353	G00291354
Government — State and Local	G00291355	G00291356
Healthcare Providers	G00291357	G00291358
Industrial Electronics and Electrical Equipment	G00291359	G00291360
Industrial Manufacturing	G00291361	G00291362
Insurance	G00291363	G00291364
Media and Entertainment	G00291365	G00291366
Pharmaceuticals, Life Sciences and Medical Products	G00291367	G00291368
Professional Services	G00291369	G00291370
Retail and Wholesale	G00291371	G00291372
Software Publishing and Internet Services	G00291373	G00291374
Telecommunications	G00291375	G00291376
Transportation	G00291377	G00291378

Document	Current Year	Multiyear
Utilities	G00291379	G00291380

Source: Gartner IT Key Metrics Data (December 2015)

Using This Research

This research was commissioned to help IT and enterprise leaders compare IT investment levels (operational and capital expenses) with standard industry categories (revenue, operating expense, and total employees). To ensure a like for like comparison to the Gartner metrics it is important to adhere to the data definitions, which can be found throughout this report.

As with any published data, many potential interpretations and analyses exist. The dataset represents a mix of organizations of different sizes and vertical industry segmentations. The industry-specific spending profiles published here represent key metrics data collected directly from CIOs, CTOs, IT leaders and practitioners with respect to their organization's IT investment levels and future IT budgets. Most IT organizations follow an annual IT budgeting process and adjust their budgets based on changing economic and business conditions. In many organizations, IT spending levels are reviewed and revised on a quarterly or even monthly basis. Therefore, published IT spending benchmarks represent a "snapshot in time," and do not necessarily indicate what enterprises will or have ultimately spent on IT in the coming year or in the past.

Although the published figures represent what Gartner calls a "stalking horse" (that is, a position resulting from analysis of data that represents trends and results), each organization should assess its own situation carefully, and should not arbitrarily change to conform to published results (which do not necessarily represent best practices). For example, the metric of IT spending as a percent of revenue does not, by itself, provide valid comparative information that should be used to allocate IT or business resources. Moreover, IT spending statistics alone do not measure IT effectiveness and are not a gauge of successful IT organizations. They simply provide an indicative view of global investment levels for the market in general.

While the industry-specific spending metrics published here and in other research provide a high-level overview of spending priorities, many organizations feel the need to further evaluate their organization as compared to their niche competitive landscape when benchmarking. Many firms decide that a formal benchmarking exercise — one that is highly customized and prescriptive for the individual firm — is a natural follow-on to using the results presented in this research and in Gartner ITKMD publications. In such exercises, companies can be more assured that they are getting an "apples to apples" benchmark with a more refined peer group, and that the benchmark takes into consideration variations in complexity (such as the elements of industry, enterprise size, platforms, applications and other key variables).

Gartner recommends that organizations consider an investment in such customized or in-depth benchmarking engagements to support the budget cycle, significant IT or enterprise changes, or whenever making significant IT cost-based decisions. The information published in this research can be used during the time periods between prescriptive or consulting-led benchmark engagements.

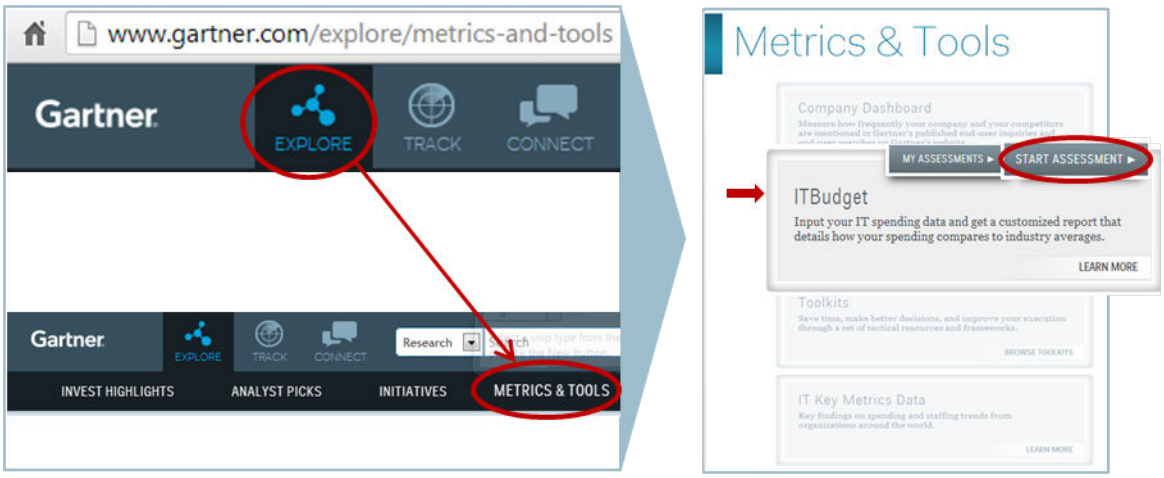
To explore Gartner's consulting-based prescriptive benchmark analytics capabilities and case studies, see the Appendix.

Gartner's ITBudget Tool: Compare Your IT Metrics to Your Industry

As an easier way to access the information in this report, you can use the Gartner ITBudget Tool to start your benchmarking journey and compare your enterprise IT metrics (see gartner.com/itbudget). The tool can be used on an ongoing basis, to analysis your current and future expenditure.

To start a new assessment and generate an IT metrics comparison report versus your industry, from gartner.com, select "Explore," "Metrics & Tools," and under "ITBudget," select "Start Assessment."

Figure 1. ITBudget Tool Location



Source: Gartner (December 2015)

Note: Many CIOs and IT leaders leverage the "Delegation" feature to email data collection and financial alignment activities to a colleague to complete on their behalf; as well as to drive a common measurement reporting structure across independent divisions, agencies, or business units to support coordinated budgeting, planning and communication exercises. Delegates do not need to have access to Gartner.

Once you have completed an assessment, the following notes highlight next steps to support IT business value discussions through IT financial transparency and cost optimization initiatives.

- "IT Key Metrics Data 2016: Resources to Review Your ITBudget Comparison Report"
- "Use Benchmarking to Identify IT Cost Optimization Opportunities"
- "Measure the Value of the IT Organization From Your Stakeholder's Perspective"
- "Making the Case for IT Investments by Focusing on the Business Strategy"

Access to the ITBudget Tool is dependent on your level of Gartner subscription.

Gartner IT Key Metrics Data Series

Depending on your subscription level for Gartner services, some clients have access to the complete Gartner ITKMD publication series. To access the series from gartner.com, select "Explore," "Metrics & Tools," and "IT Key Metrics Data."

ITKMD is part of the Gartner Benchmark Analytics range of solutions and offers a macro level look at Gartner's global database of comprehensive cost and performance measures. ITKMD provides you with immediate access to authoritative data on IT staffing and investment levels, as well as key technology cost and performance metrics. These metrics enable improved budget and investment decisions with regard to the changing environments of business and IT.

The ITKMD annual publication series contains more than 2,000 IT metrics published by way of 96 Gartner Benchmark Analytics research notes. In addition to the key IT financial metrics in this research, a variety of IT staffing and productivity metrics are available in the areas listed below. Some reports show vertical industry tendencies, while others tend to be cross-industry perspectives. Many of the metrics show averages by revenue scale or size of IT infrastructure environment supported (e.g., number of server operating system instances, number of installed MIPS, and number of personal computing devices).

These key metrics reports are broadly defined by five key areas of the IT portfolio:

- **Key Industry Measures.** Enterprise-level total IT spending and staffing metrics across 21 vertical industries, including current-year and multiyear averages. Metrics based on enterprise size in terms of annual revenues are often provided.
- **Key Infrastructure Measures.** IT functional area-specific unit cost, productivity and performance measures for the IT infrastructure environments, including current-year and multiyear averages for the Windows server, Unix server, Linux x86 server, mainframe, storage, end-user computing, IT service desk, data and voice network environments. Metrics by workload size are often provided.
- **Key Applications Measures.** Application development and application support spending and staffing metrics, project measures, life cycle phases, productivity and quality measures (current year and multiyear).
- **Key Information Security Measures.** Enterprise-level total spending and staffing measures by industry and region.
- **Key Outsourcing Measures.** Enterprise-level total spending and staffing measures by industry and region.

For a complete outline of all related published research in the series, see "IT Key Metrics Data 2016: Index of Published Documents and Metrics."

IT Key Metrics Data Source

Information for ITKMD is continuously collected worldwide via direct fact-finding in our many benchmarking and consulting engagements, through surveys of the Gartner community and at

Gartner events, in addition to surveys of non-Gartner-based communities. Financial information, such as revenue and operating income, is also collected from secondary research sources, such as annual reports and public databases.

Data Variations

As information for ITKMD is compiled by Gartner from multiple sources, we do not use a specific sampling method. The data collected each year may have a different distribution of organization sizes (revenue/business operating expenses/employees), and geographies. While we do group similar companies within each of the individual industry categories, there is always some diversity in businesses represented. For this reason, there may be minor or significant fluctuations in metrics from year to year.

This IT spending and staffing report contains 2016 projections for the IT spending as a percent of revenue, IT spending as a percent of operating expenses, and IT spending per employee metrics. Only some of our survey participants provided projections for 2016. Therefore, the sample size available for projections is smaller than the sample sizes for current and previous years. For this reason, the 2015 metrics may be more appropriate to use as a comparison than those of 2016. The 2015 metrics will also match the information published in our ITKMD current-year reports.

Demographics

In 2015, Gartner collected 7,595 data points from public and private enterprises from more than 80 countries in 21 industry sectors. For more information, including the distribution of data points by region, see "IT Key Metrics Data 2016: Demographics."

For the key industry measures contained in this report, we collected 3,034 data points. The result is the most comprehensive and authoritative IT spending, staffing and performance data in the industry.

Table 2 shows the number of observations and average size of the organizations that represented in each industry (annual revenue and number of employees).

Table 2. Number of Observations, Average Revenue and Enterprise Employees

Industry	Number of Observations	2014 Revenue (Billions of $)	2015 Employees (Thousands)
All Industries (Cross-Industry)	3,034	5.9	14.8
Banking and Financial Services	348	3.4	8.9
Chemicals	68	5.7	9.4
Construction, Materials and Natural Resources	172	5.1	13.8
Consumer Products	101	4.8	13.5
Education	130	1.0	6.2
Energy	102	30.2	11.5
Food and Beverage Processing	96	6.7	19.1
Government — National/International (Operating Budget)	154	9.3	32.1
Government — State/Local (Operating Budget)	163	3.0	13.5
Healthcare Providers	135	3.2	18.7
Industrial Electronics and Electrical Equipment	80	5.3	18.7
Industrial Manufacturing	167	10.7	27.7
Insurance	273	4.2	3.8
Media and Entertainment	73	2.1	6.0
Pharmaceuticals, Life Sciences and Medical Products	97	5.3	13.2
Professional Services	290	2.2	13.4
Retail and Wholesale	223	8.5	26.1
Software Publishing and Internet Services	49	2.7	5.3
Telecommunications	64	9.5	20.9
Transportation	118	5.0	21.4

Industry	Number of Observations	2014 Revenue (Billions of $)	2015 Employees (Thousands)
Utilities	131	7.7	8.3

Notes: (1) The revenue figures reported are final and official for 2014; the 2015 revenue figures were not announced or were otherwise unavailable at the time of this publication. (2) Government operating budget is used as a proxy for "revenue"; however, it is not included in the all-industry average for revenue. (3) The all-industry enterprise full-time equivalent (FTE) average includes government FTEs.

Source: Gartner IT Key Metrics Data (December 2015)

2015 IT Investment Measures

Total IT Spending/Budget Definition

For the purpose of this research, Gartner has defined "total IT spending" as the following:

> "The best estimate of total spending at the end of the 12-month budget period for IT to support the enterprise. IT spending/budget can come from anywhere in the enterprise that incurs IT costs, and it is not limited to the IT organization. It includes estimates by enterprises on decentralized IT spending and or 'shadow' IT. It is calculated on an annualized 'cash flow view' basis, and, therefore, contains capital spending and operational expenses, but not depreciation or amortization."

What the IT Spending/Budget Includes, From a Resource or Cost Perspective

- Hardware, software, personnel (including contractors, travel, benefits and training), outsourcing (external IT services like consulting, system integration, data and voice transmission, software as a service, infrastructure as a service), disaster recovery and occupancy costs associated with supporting IT within the enterprise. Costs also include all taxes (except value-added tax where it is recovered or refunded to the organization).
  - Note: Occupancy costs, include fully burdened costs for the facilities being used by the IT staff supporting the enterprise. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy costs for space dedicated to IT functions, such as the data center, including power/heat management and raised floor, are also included.

What the IT Spending/Budget Includes, From an IT Functional Area or Activity Perspective

- The data center (for example, mainframes, servers and storage), end-user computing devices (for example, desktops, laptops, tablets, thin clients and smartphones), voice and data networks (including, but not limited to, voice and data transmissions, fixed and mobile telephony, and Internet access services), IT service desk, and applications (for example, development and maintenance).

- IT support functions, such as the office of the CIO; supervisory management; finance and administrative costs, such as purchasing; asset management; process management; and marketing of IT services.
- Dedicated data processing equipment used in operations, production and engineering environments — examples are computer-aided design/computer-aided manufacturing (CAD/CAM) and standard computing equipment used in devices for factory automation, and tablet PCs used by healthcare professionals.

What the IT Spending/Budget Does Not Include

- Costs for technology or services that are resold. Examples include salaries for developers involved in building commercially packaged software, or IT-skilled employees who provide services for the organizations' external clients.
- Operational technology that is:
  - Equipment-built or purchased for non-data-processing purposes, but which has computerized components. Examples include robotic manufacturing machines, automated teller machines, specialized point-of-sale devices, scanners, blood pressure monitors and sensors on a supervisory control and data acquisition (SCADA) system.
  - Appliance-like or proprietary data processing equipment that has a single (typically industry vertical) purpose and cannot be used for other general purposes. A typical example is a computer that can only control the flow of electricity through the power grid. Since it cannot be repurposed, it is not included in our model. Note that other systems that gather data from this type of computer and can be used for other purposes would not be considered operational technology and, therefore, would be in scope of our model.
- Depreciation or amortization expenses, which could lead to double counting from an accounting perspective.
- Internal "cross charges" and corporate allocations related to large, significant and/or unusual one-time expenses, such as reductions in workforce, redundancy, relocations, retirement, human resources and chairperson's salary.
- Business data subscriptions and services (such as Bloomberg), even if they are managed by the IT organization.
- Business process outsourcing services (BPO) where organizations outsource entire business functions such as payroll or benefits management. This includes cases where the BPO vendor provides access to software, and also guarantees that the outcomes of their services will meet business requirements, such as tax and withholding regulations. Note: where a vendor provides Software as a Service and only guarantees that the software will perform as specified, then this is in scope of the IT spending/budget. Traditional outsourcing of IT functions, for example servers and email, are also still within scope.

Points of Clarification

The IT Key Metrics Data: Key Industry Measures publication series looks at IT spending from a "cash flow" view, in that IT spending is defined as "the total of the IT operating budget (excluding depreciation and amortization), plus IT capital expenditure for the current year." This view allows organizations to understand the current year's cash outlay based on current-year management, plans and future-state strategy objectives. Many organizations monitor IT spending results using what is sometimes called the annualized "book view" or "accounting view," which represents the IT operating expenditure budget, including current depreciation (the allocation of prior years' IT capitalized expenses, which the enterprise records on its books for the current year). Capital budgets for the year in this accounting-based view are typically collected and reported separately. While this accounting view is helpful in outlining the annual cost of IT, it often does not accurately reflect the current strategy (and the respective investment decisions) because depreciation represents decisions made in the past. In this research, the ratio of IT operating versus capital spending is provided so that detailed comparisons can be made.

It should be noted that IT spending as a percent of revenue in the ITKMD is calculated on the basis of the current year's IT spending (budget) divided by the previous year's stated revenue. The calculation is made in this way because the current year's financial data is typically not available at the time of publication, while the IT spending/budget data is available. Also, the IT budget for a future year is based on experience from the current year.

Although Gartner publishes worldwide vertical-industry-specific IT spending and staffing metrics, ITKMD does not publish metrics by vertical industries within key geographic regions because previous research has shown that spending patterns are broadly similar by vertical market across regions. So, for example, financial services tend to spend a relatively high percentage of revenue compared with other vertical industries, whether the company is in Europe, Asia/Pacific or North America. While this information may not be available through published research, Gartner does provide prescriptive benchmarking services versus unique peer groups by industry subsector and or marketplace through the Gartner Consulting capabilities on a service for a fee basis.

To explore Gartner's consulting based prescriptive benchmark analytics capabilities and case studies, see the Appendix.

IT Intensity

IT intensity, which is defined as "the level of IT investment relative to business results," is a fundamental tool in business strategy and IT communications. Although many organizations focus on one measure to understand their relative IT investment levels, Gartner has found that no single measure tells the whole story, and that the metrics need a business context to drive value and meaning for the greater enterprise to leverage. Gartner suggests that clients view IT investment against multiple measures of business volume and financial performance, and then triangulate on these as compared with various ratios of business efficiency and productivity. Next, incorporate these metrics into regular communications with the appropriate business context to link IT investment to business performance indicators.

For the purpose of the IT Key Metrics Data: Key Industry Measures publication series, Gartner suggests that clients triangulate between IT spending as a percent of revenue, IT spending as a percent of operating expense, and IT spending per company employee to understand relative IT intensity levels. Next, clients should cross-examine those measures against business productivity ratios (such as revenue per employee, operating income per employee and profitability ratios) to understand the impact on the business. For more information on these metrics, see the individual industry-specific documents outlined in Table 1 above.

IT Spending Percent Change, 2014 to 2015

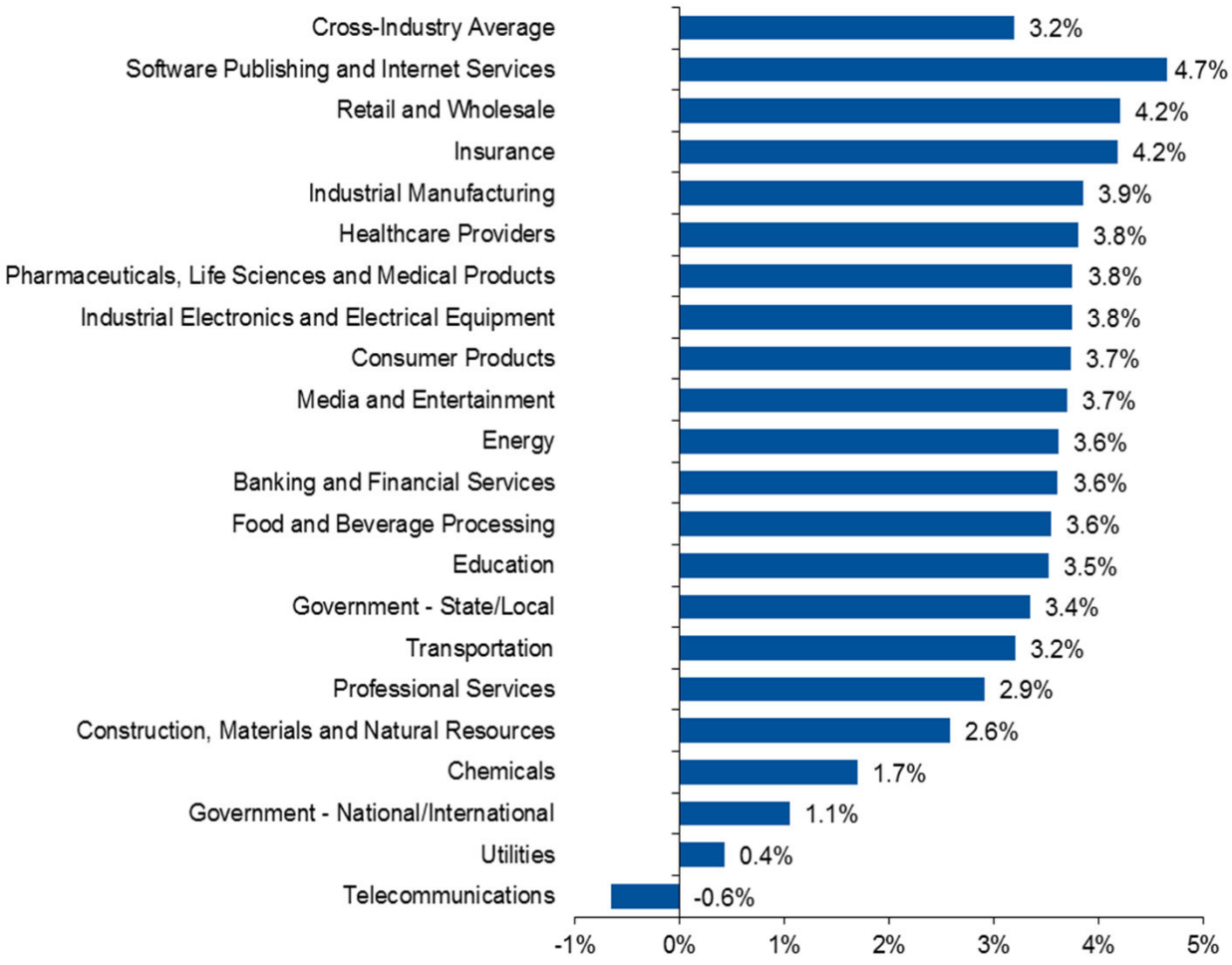
IT spending percent change helps to put context around the directional movement of annual IT spending/budget levels.

There is high visibility around total IT investment figures as they relate to the business. Therefore, understanding the directional movement of the numerator in these ratios is equally as important, because IT investment enables growth and transformation.

Most industry sectors continued to see an increase in IT spending in 2015, with an overall average increase of 3.2% (see Figure 2). Software publishing and internet services continue to have the largest average increase at 4.7%, while telecommunications had the lowest level at -0.6%.

Although average IT spending has been increasing, this does not mean that all organizations saw an increase. For a significant number of organizations, spending levels remained unchanged or decreased in 2015. The reasons for change in IT spending patterns in organizations can be varied, and can include wider economic and political issues, changes in technology, business strategy, and investment lifecycles.

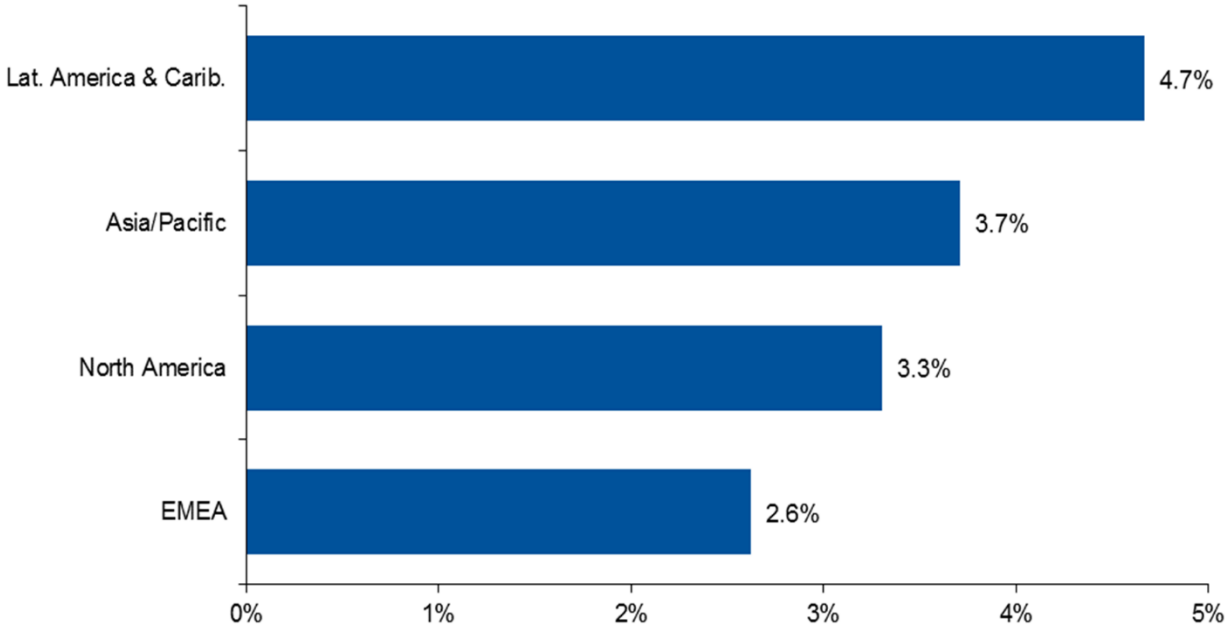
Figure 2. IT Spending Percent Change, by Industry, 2014 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, Latin America showed the highest increase in IT spending at 4.7% (see Figure 3). Continuing the trend observed for much of the past 5 years, EMEA has the lowest level of increase.

Figure 3. IT Spending Percent Change, by Region, 2014 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

IT Spending as a Percent of Revenue, 2015

IT spending as a percent of revenue is the most recognized measure of total IT investment relative to top-line business results.

Revenue is defined as:

> "The enterprise revenue associated with the business units supported by the IT organization (banks should use total interest income plus noninterest income minus provision for loan losses, while insurance companies should use gross written premiums and other income)."

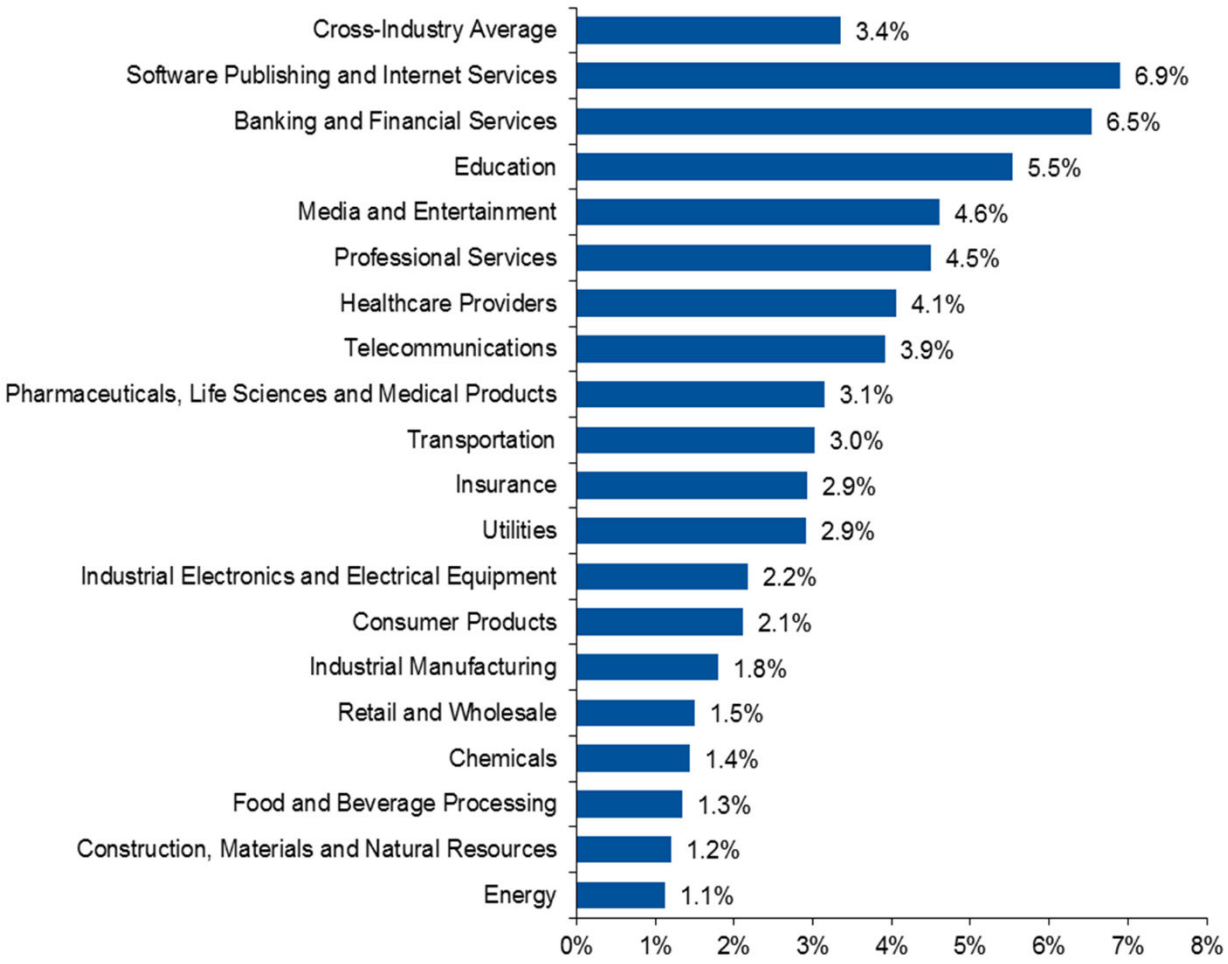
The value of this measure is that it assists in identifying the competitiveness of investment levels relative to the most fundamental measure of business performance: revenue. While this has been viewed as a must-have and readily available metric for many enterprises, common misuses include:

- Looking at a single year rather than multiyear trends
- Basing decisions on the assumption that this figure will not change in the future, sometimes dramatically
- Failing to understand and address changes in the numerator and the denominator of the calculation
- Considering just the average rather than the range of values or the upper and lower quartiles, which can be found in Gartner ITKMD reports specific to vertical industries (See individual industry-specific documents outlined in Table 1 above.)

IT spending as a percent of revenue alone does not highlight why spending levels are at, above or below average (which are often misinterpreted as "good" or "bad"), nor does it reflect IT's contribution to business performance. Thus, IT spending as a percent of revenue needs to be considered in tandem with other IT intensity measures, as well as the context of business objectives, the rate of change and the overall circumstances affecting the numerator, as well as the denominator, of the calculation.

At an overall level, IT spending as a percent of revenue (see Figure 4) has increased after a number of years of being on a general downward trend. Between 2014 and 2015 it increased by 0.2 percentage point to 3.4%. Software publishing and Internet services, as well as banking and financial services top the list, while the energy, and construction, materials and natural resources are at the bottom. However, not all industries saw an increase from the 2014 levels, and out of the 19 industries shown below (government categories are excluded from this figure), 4 actually saw a decrease, and 3 remained the same.

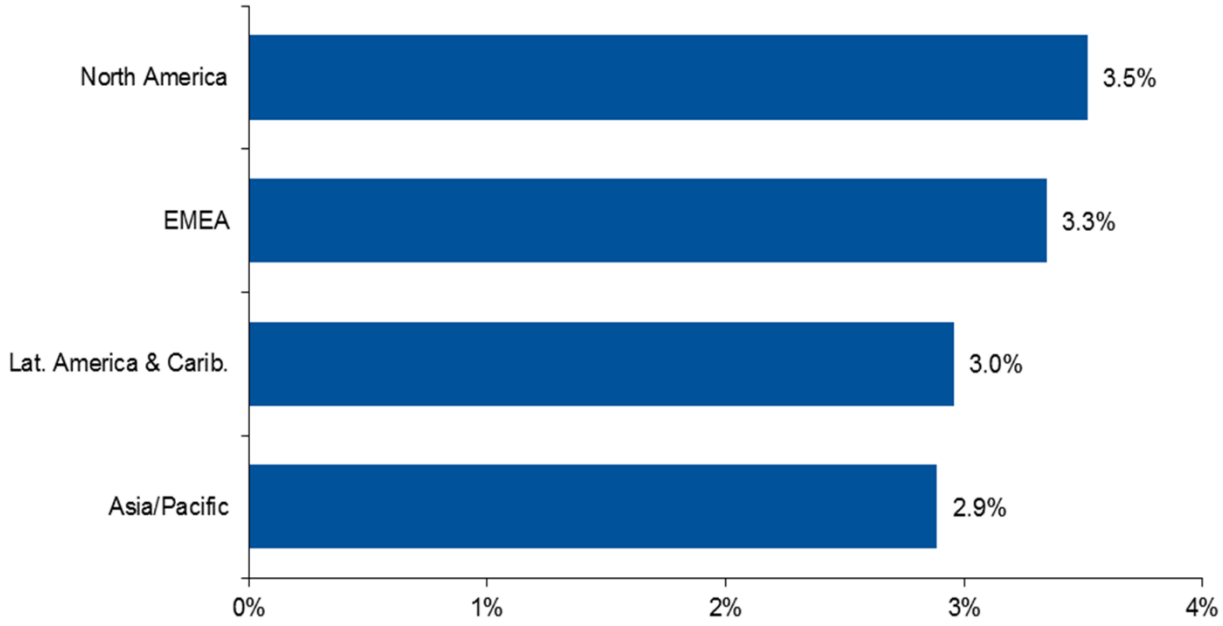
Figure 4. IT Spending as a Percent of Revenue, by Industry, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, average IT spending as a percent of revenue increased at the fastest rate in Asia/Pacific, although it still remains slightly lower than in other regions. Latin America remained at the same level as in 2014, while both North America and EMEA increased by 0.1 percentage point. See Figure 5.

Figure 5. IT Spending as a Percent of Revenue, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Note that IT spending as a percent of revenue is calculated on the basis of the current year's IT spending, divided by the previous year's revenue. We make the calculation in this way because the IT budget for a future year is based on experience from the current year. However, for practical reasons, we use the previous year's revenue because the current year's financial information is not available to us at the same time as the IT spending numbers.

Agility: Revenue Percent Change versus IT Spending Percent Change, 2014 to 2015

Revenue percent change versus IT spending percent change identifies the relationship between IT investment and key business pressures. Is the business growing revenue, and at what rate? Is IT spending/budget moving in the same direction? Is IT spending change leading or falling behind revenue change?

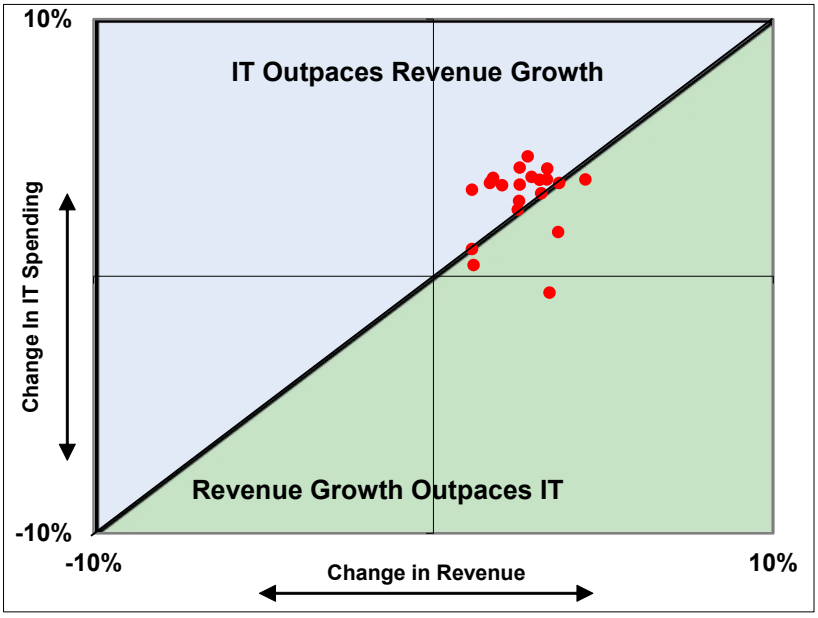
Mapping year-over-year business growth to IT budget growth can be a powerful tool to understand the role that IT plays in the evolution of the business.

Figure 6 shows that for the majority of industries, average IT spending and revenue increased from 2014 to 2015. However there is a more mixed picture when we look at whether IT spending grows faster than revenue, or revenue grows faster than IT spending.

In 2014 we saw more industries with average revenue increases growing faster than average IT spending increases, but in 2015 this trend was reversed and now more have IT spending increasing faster than revenue, this suggests that some organizations may be investing to keep up with

revenue growth, while others may be implementing project postponed from earlier more uncertain years, increasing security spending, or starting to implement digitalization initiatives.

Figure 6. Agility: Revenue Percent Change versus IT Spending Percent Change, 2014 to 2015



Highest IT Growth vs Revenue

IT Growing Faster Than Revenue

Healthcare Providers
Media and Entertainment
Energy
Software Publishing and Internet Services
Retail and Wholesale
Education
Food and Beverage Processing
Industrial Manufacturing
Insurance
Consumer Products
Pharmaceuticals, Life Sciences and Medical Products
Professional Services
Construction, Materials and Natural Resources
Transportation
Banking and Financial Services
Industrial Electronics and Electrical Equipment
Utilities
Chemicals
Telecommunications

Revenue Growing Faster Than IT

Lowest IT Growth vs. Revenue

Source: Gartner IT Key Metrics Data (December 2015)

IT Spending as a Percent of Operating Expense, 2015

IT spending as a percent of operating expense is another view of IT investment levels in terms of the role IT plays in overall business spending patterns.

Business operational expense is defined as:

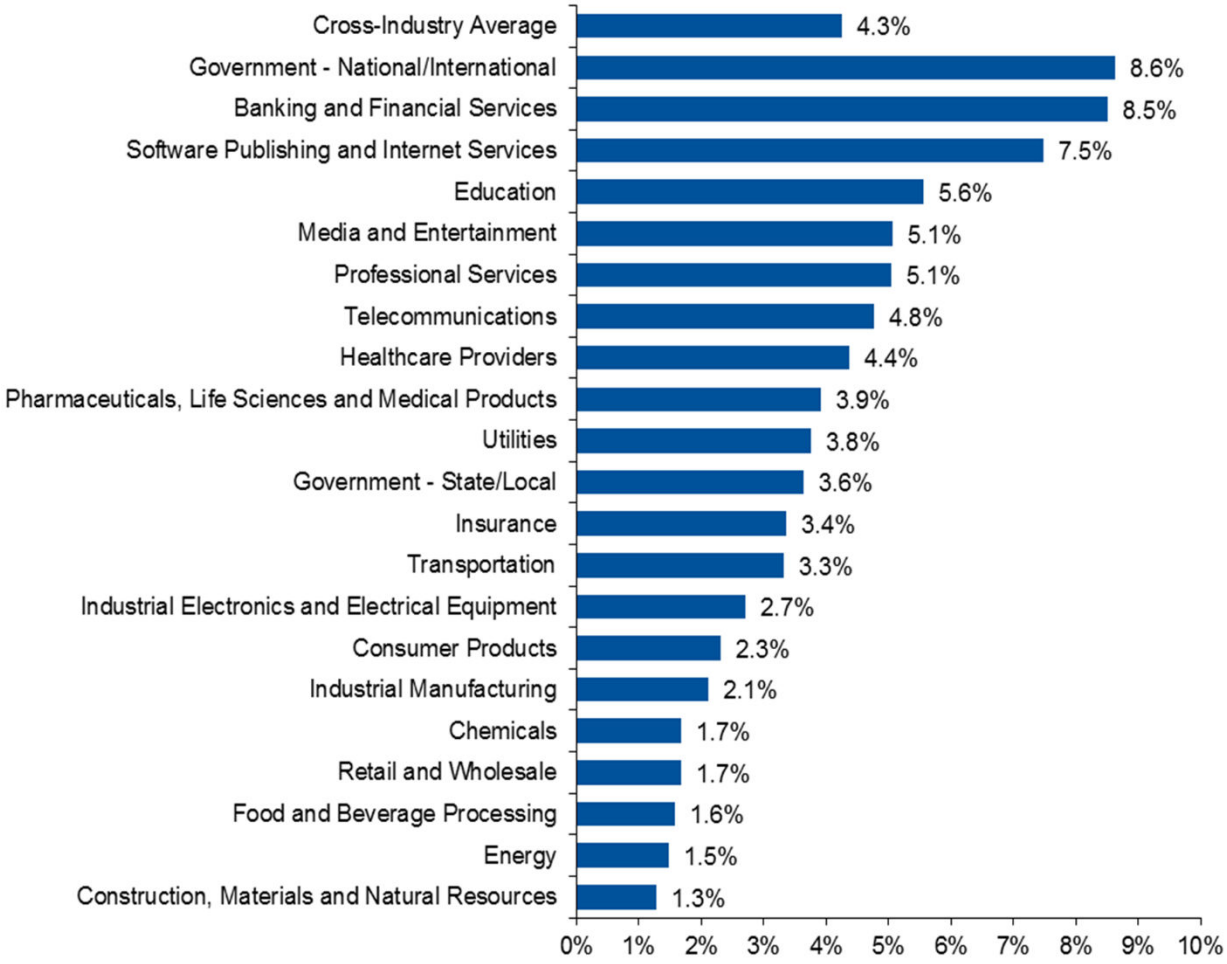
> "The total expense associated with the business units supported by the IT organization. This includes items such as selling, general and administrative expenses, cost of goods sold (or cost of revenue), research and development, depreciation, and depletion and amortization expenses. For insurance, this includes underwriting expenses and loss and loss-adjustment expenses; for banking organizations, it includes interest expenses and noninterest expenses; for government and nonprofit organizations, it is represented by the enterprise operating budget."

While revenue may be subject to external-market-based volatilities, business operational expense typically remains much more consistent and predictable year over year. Therefore, it better reflects the overall business investment strategy. Typically, organizations with a greater level of IT investment relative to operating expense view IT as a strategic enabler, and this can improve business performance and productivity levels.

In 2015, the average cross-industry IT spending as percent of operating expenses increased after 3 years of a slow decline. The level of increase was 0.1 percentage point compared to 2014, returning to the 2013 level. These relatively small changes at the overall level mask the fact that not all industry sectors are moving at the same pace or in the same direction. 6 industries saw a decline in their average, while 3 remained at the 2014 level, and 12 saw an increase. The level of change in the industry averages varied from a 1.0 percentage point increase in software publishing and Internet services to 0.6 percentage point decrease for national/international government.

The national/international government sector continues to have the highest average level of IT spending as a percent of operating expenses (see Figure 7), while banking and financial services and software publishing and Internet services, are ranked second and third, the same positions as in 2014. Construction, materials and natural resources continues to be ranked last compared to other industry segments.

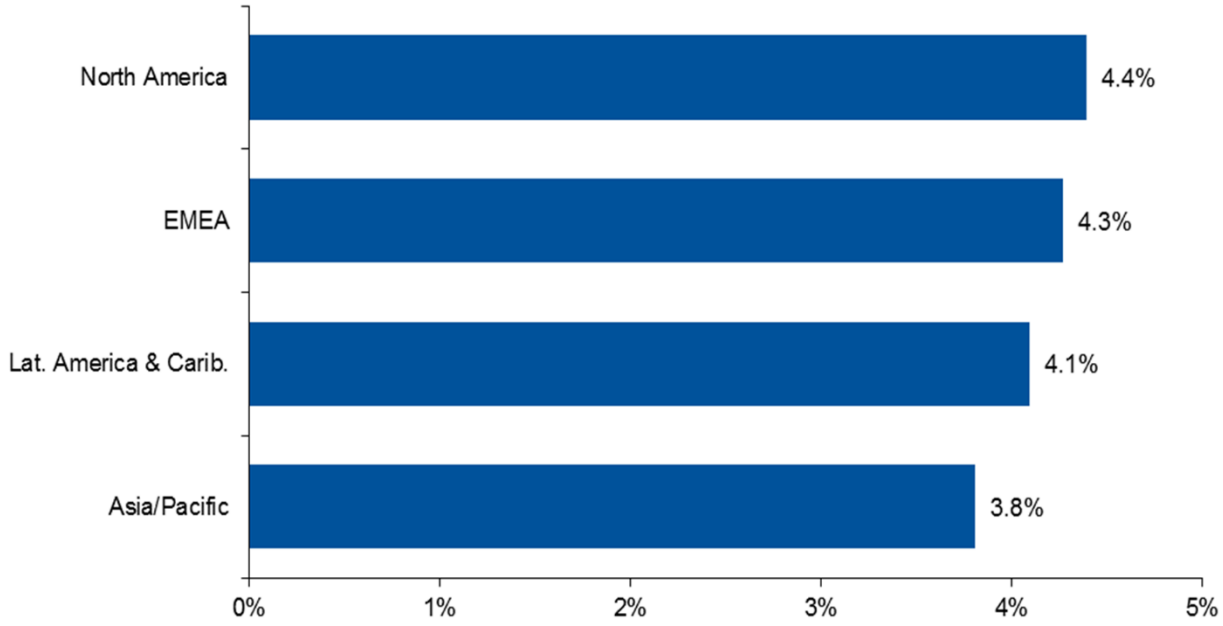
Figure 7. IT Spending as a Percent of Operating Expense, by Industry, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, North America and EMEA had the same level of average IT spending as a percent of operating expenses compared to 2014. Latin America and Asia/Pacific both saw increases, of 0.2 percentage point and 0.6 percentage point respectively. They both continue to be at a lower average level than North America and EMEA (see Figure 8).

Figure 8. IT Spending as a Percent of Operating Expense, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Again, this metric is calculated on the basis of the current year's IT spending, divided by the previous operational expenses. We advise clients to keep this in mind when comparing their own data with Gartner metrics.

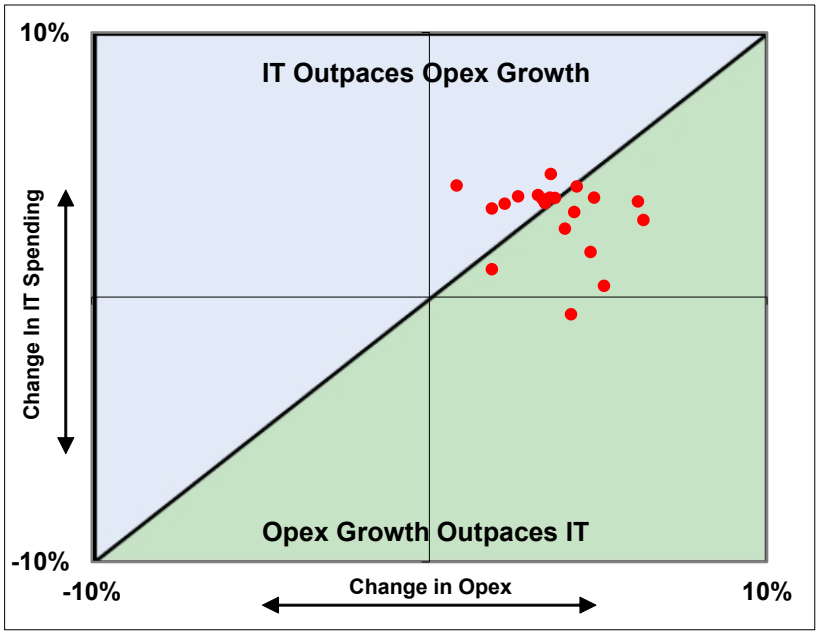
Agility: Operating Expense Percent Change versus IT Spending Percent Change, 2014 to 2015

Operating expense percent change versus IT spending percent change highlights the relationship between IT and the business spending (for example, decreased spending in IT and increased spending on operating expenses can sometimes indicate that the business has not recognized value from its IT investments).

By plotting growth in business operating expenses alongside year-over-year IT investment growth, we can get a better sense of business and IT alignment, especially when viewed over multiple years.

Figure 9 shows a mixed picture with approximately half of industries seeing their operating expenses rise faster than the IT spending between 2014 and 2015. While the other half saw IT spending rise faster than operating expenses. The rates of change by industry also varies.

Figure 9. Agility: Operating Expense Percent Change versus IT Spending Percent Change, 2014 to 2015



Highest IT Growth vs Opex

IT Growing Faster Than Opex

Retail and Wholesale
Government - State/Local
Education
Healthcare Providers
Software Publishing and Internet Services
Industrial Manufacturing
Media and Entertainment
Pharmaceuticals, Life Sciences and Medical Products
Food and Beverage Processing
Consumer Products
Insurance
Government - National/International
Transportation
Industrial Electronics and Electrical Equipment
Construction, Materials and Natural Resources
Banking and Financial Services
Chemicals
Professional Services
Utilities
Telecommunications
Energy

Opex Growing Faster Than IT

Lowest IT Growth vs. Opex

Source: Gartner IT Key Metrics Data (December 2015)

IT Spending per Employee, 2015

IT spending per employee is often used to determine the amount of IT support the average organization's workforce receives.

Company employee count is defined as:

> "The count of employees (i.e., head count, excluding enterprise contractors and consultants), regardless of whether these employees are frequent users of the technology supported by the IT organization. This includes full-time and part-time employees, or as reported in the public record."

This measure helps to establish a link between IT investment and automation levels within the context of the workforce that supports revenue. Variations in this measure can represent niche-industry-specific delivery processes for service or product delivery, and, thus, should be viewed in conjunction with revenue and operating income per employee. Organizational staffing strategies and the use of contract employees can also impact this measure.

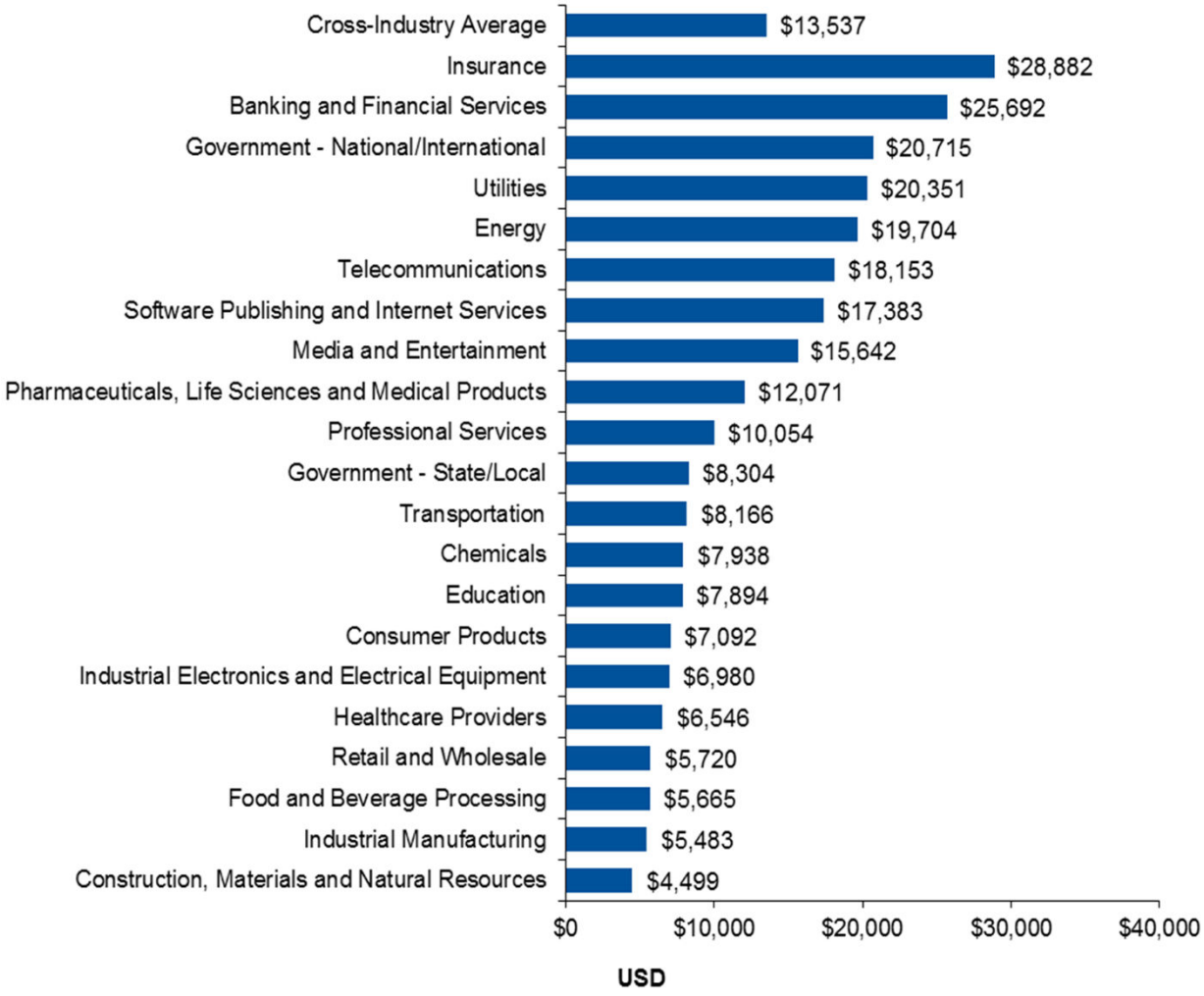
The industries with the highest level of IT spending per employee are those that typically tend to be the most information-intensive, and include insurance, banking and financial services, and national and international government (see Figure 10). Industries that are more labor-based, such as construction, materials and natural resources, tend to have much lower IT spending per employee.

From a cross-industry perspective, IT spending per employee increased from $12,710 in 2014 to $13,537 in 2015. Again, the average increase masks the diversity by industry. Gartner observes a wide variety of both increases and decreases by industry as well as within individual industry sub-sectors based on organization’s future state objectives. The industry that saw the largest increase in percentage terms compared to 2014 were software publishing and Internet services, while construction, materials and natural resources saw the largest decrease.

In terms of ranking between industries, then the top 4 and bottom 4 all held the same positions in 2014 and 2013.

An increase in IT spending per employee is often viewed as a negative trend. However, this may not always be the case, as a decrease in employees (or a lack of increase of additional employees when business improves) can result in a higher value, simply because there are a smaller number of employees that are divided into the same or increasing IT spending size. Therefore, the overall trend may have been impacted by continuing economic uncertainty and the fact that changes such as digitization may drive spending on technology versus personnel.

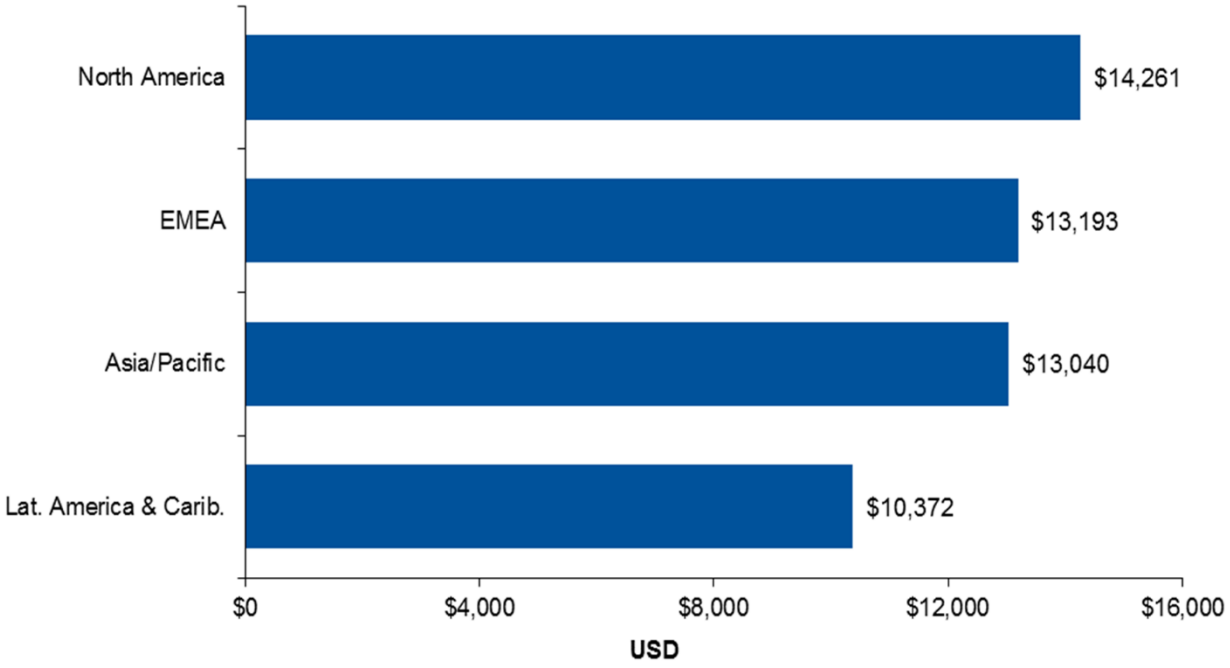
Figure 10. IT Spending per Employee, by Industry, 2015



Source: Gartner IT Key Metrics Data (December 2015)

From a regional perspective, North America has the highest average IT spending per employee, followed by EMEA. EMEA was the only region to see a decrease compared to the 2014 averages, while Asia/Pacific and Latin America saw the largest increases.

Figure 11. IT Spending per Employee, by Region, 2015



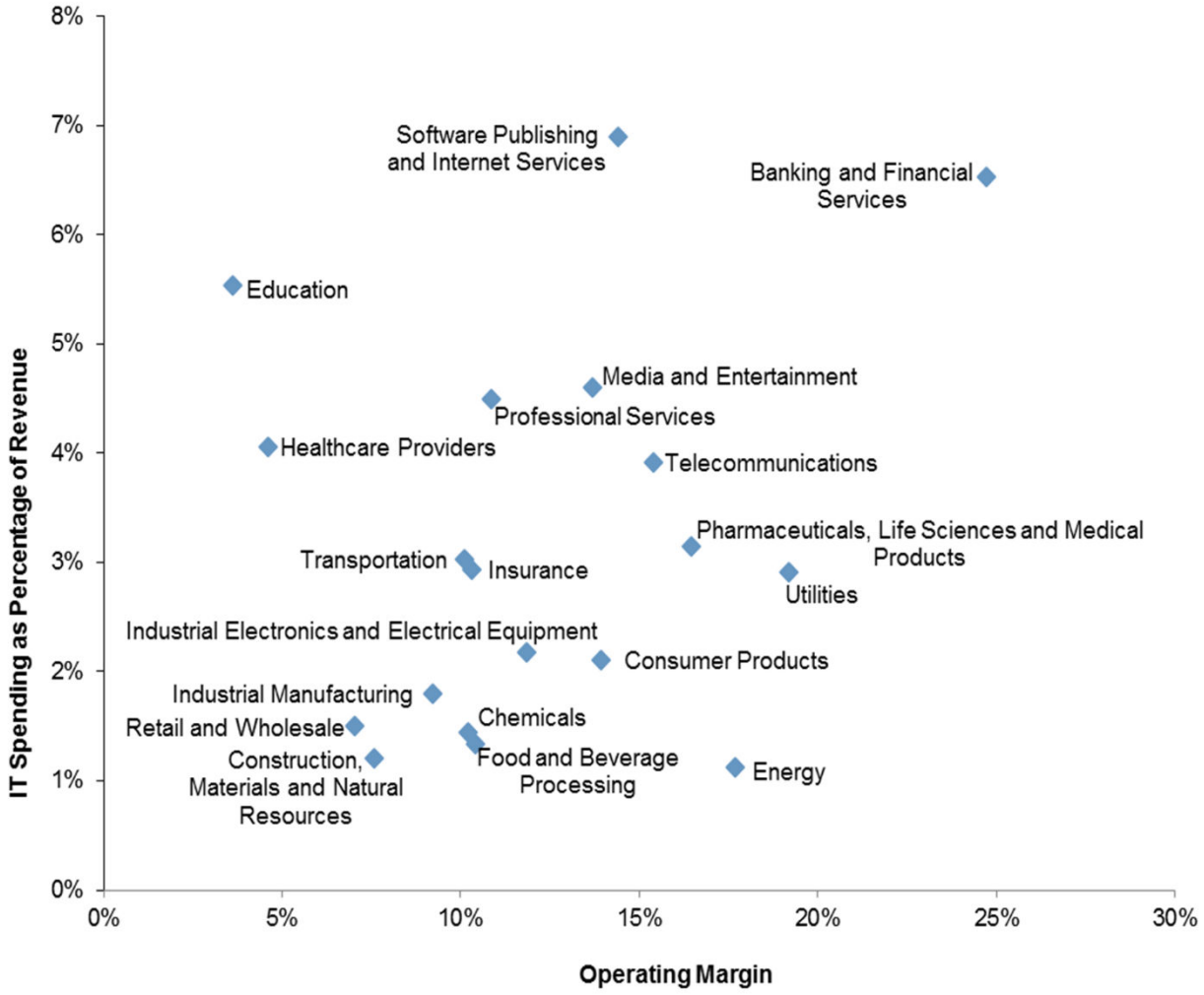
Source: Gartner IT Key Metrics Data (December 2015)

IT Spending as a Percent of Revenue versus Operating Profit, 2015

IT Value

Proving a link between IT investments and business performance has been a nearly impossible challenge for organizations, particularly at the enterprise level. Even at a project level, the successful completion of a project that meets all business requirements does not guarantee returns on investment. However, despite unclear causality, on an industry level, there appear to be interesting relationships between the level of investment and the operating profits of organizations. As Figure 12 indicates, many industries with high operating margins such as banking and financial services, and media and entertainment also have high IT spending as a percent of revenue. This view should not imply that, by investing more in IT, an organization should expect to get better profitability. Rather, it should simply outline how different industries behave under varied economic conditions.

Figure 12. IT Spending as a Percent of Revenue versus Operating Profit, 2015



Source: Gartner IT Key Metrics Data (December 2015)

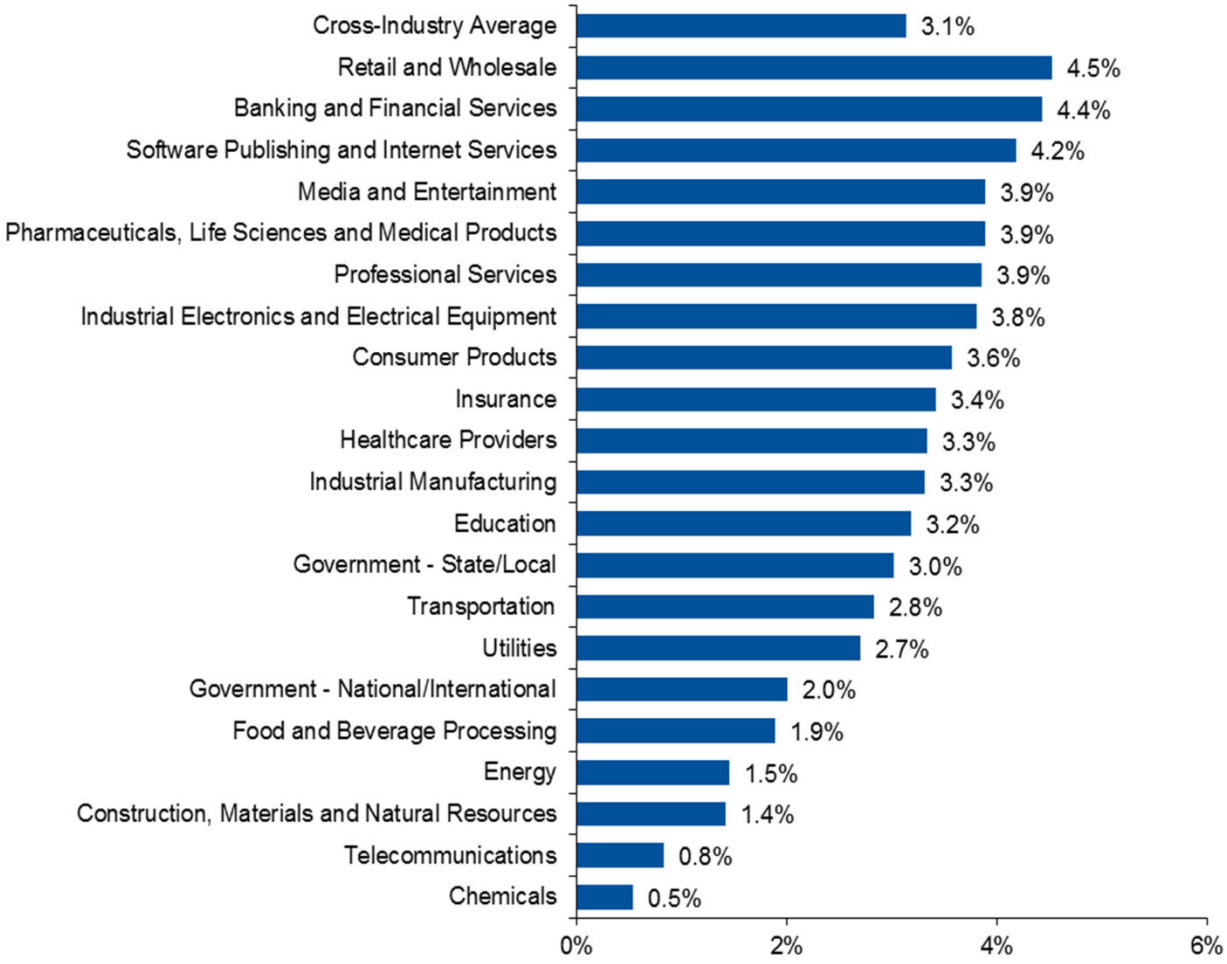
2016 Outlook

IT Spending Percent Change, 2015 to 2016

The outlook for 2015, based on pre-year budgeting, indicates an average planned increase in IT spending of around 3.1%. On average all industries are still projecting an increase in IT spending in 2016, although the level of increase varies by sector (see Figure 13).

The retail and wholesale, and banking and financial services industries show the highest expected increase at 4.5% and 4.4% respectively. Chemicals and telecommunications are at the bottom of the list and only expected to see an average increase of 0.5% and 0.8% respectively.

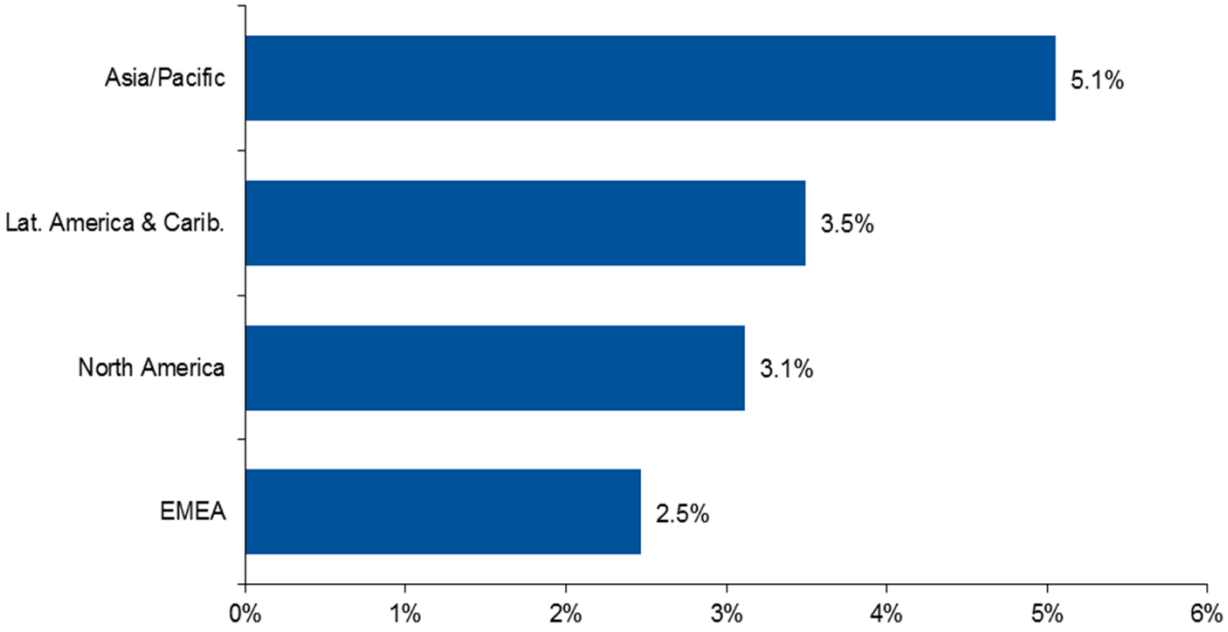
Figure 13. IT Spending Percent Change, by Industry, 2015 to 2016 Projected



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, Asia/Pacific is projecting the largest level of increase in IT spending in 2016. As in 2015, EMEA is projecting a much lower level of increase (see Figure 14). The fact that the individual regions may show a higher average increase than some of the industry sectors indicates that it is important to consider both industry and the local economy when using the ITKMD reports.

Figure 14. IT Spending Percent Change, by Region, 2015 to 2016 Projected



Source: Gartner IT Key Metrics Data (December 2015)

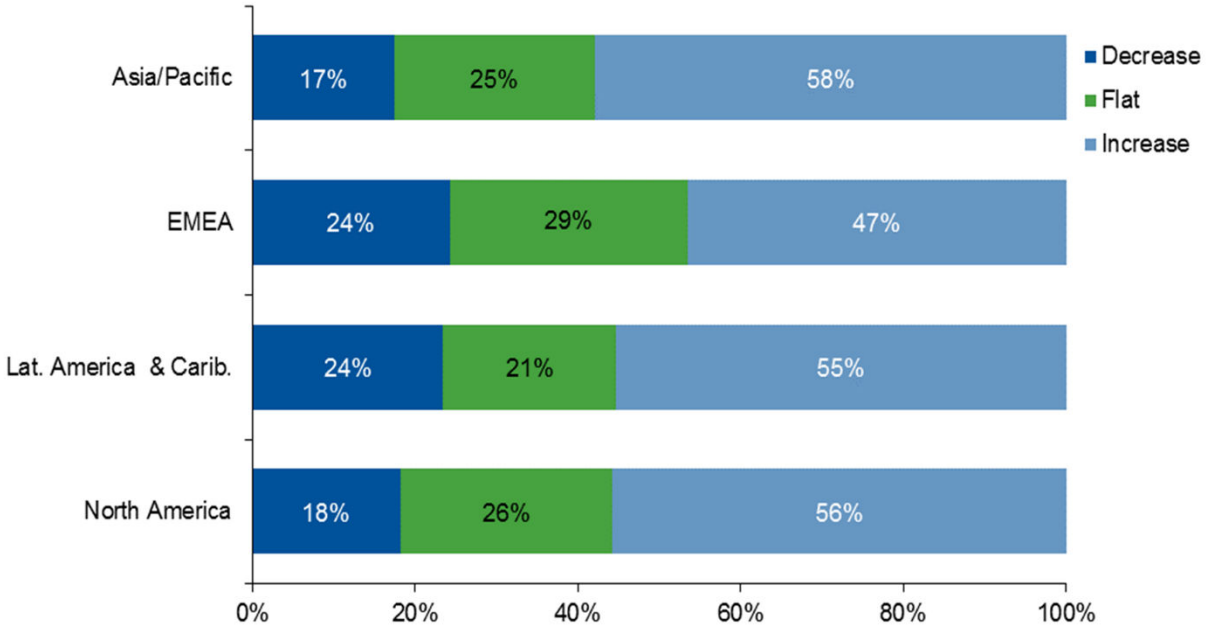
Dig Deeper

By looking at the distribution of organizations increasing, decreasing and keeping spending flat, it is possible to get a better understanding of what's driving the averages seen in earlier figures. Also, while some of the overall averages may initially indicate only small increases, to a certain extent, this hides the fact that not all organizations are necessarily moving in the same direction, and those that are increasing are balancing out those that are decreasing.

For 2016, not only does EMEA expect to have the lowest level of average increase in IT spending, more than half of the data points indicated that they expected IT spending to remain at the same level as in 2015 or experience a decrease, where as in all the other regions more than half the data points expected an increase in their IT spending (see Figure 15).

North America and Asia/Pacific showed similar profiles in terms of the distribution of data points expecting to see their IT spending decrease/increase/remain the same, while Latin America had a slightly larger percentage expecting a decrease and a smaller percentage expecting to remain at their 2015 level.

Figure 15. Spending Behaviors: Regional Distribution of Spending Changes by Type, 2015 to 2016 Projected



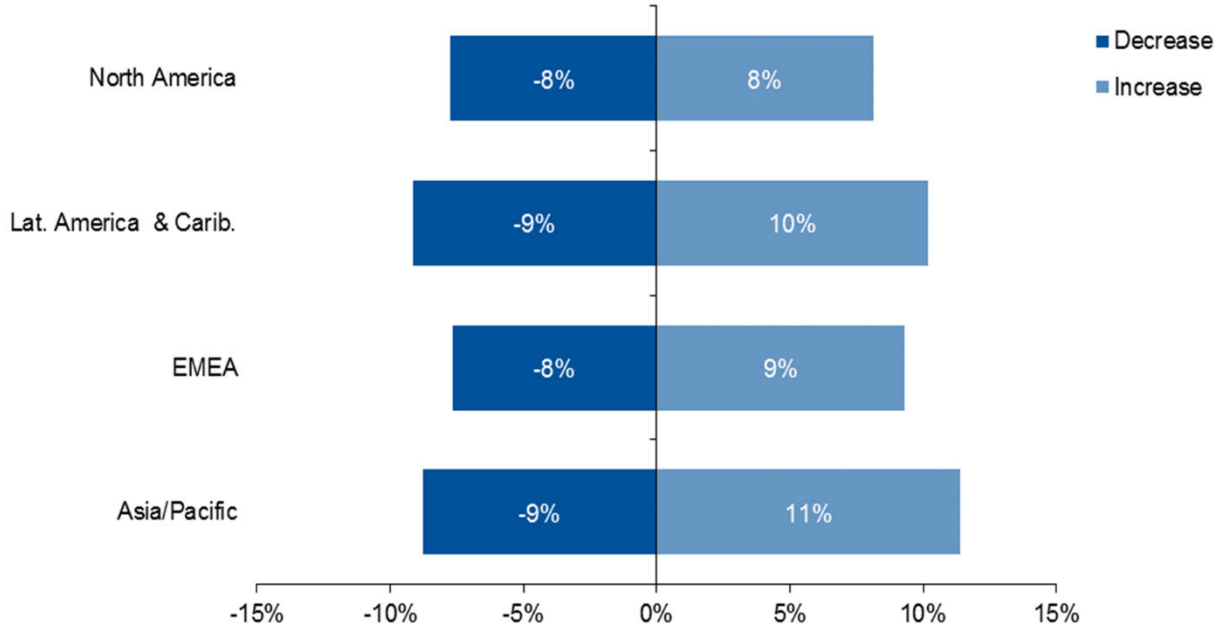
Note: The value for 2016 is a projected figure, and is based on projected 2016 IT budgets provided by Gartner clients.

Source: Gartner IT Key Metrics Data (December 2015)

Figure 16 shows the average IT spending increase and decrease for those that were planning a change (i.e., excludes data points where spending levels were expected to remain the same as in 2015). In most regions the average expected increase was also slightly higher than the average expected decrease, the exception being North America were the average increase and decrease were the same amount.

Unsurprisingly given that Asia/Pacific and Latin America expected the highest levels of overall IT spending change (Figure 14), these regions also expected a higher average level of increase (Figure 16) at 10% and 11% respectively.

Figure 16. Spending Behaviors: Regional Average Spending Changes, by Type, 2015 to 2016 Projected

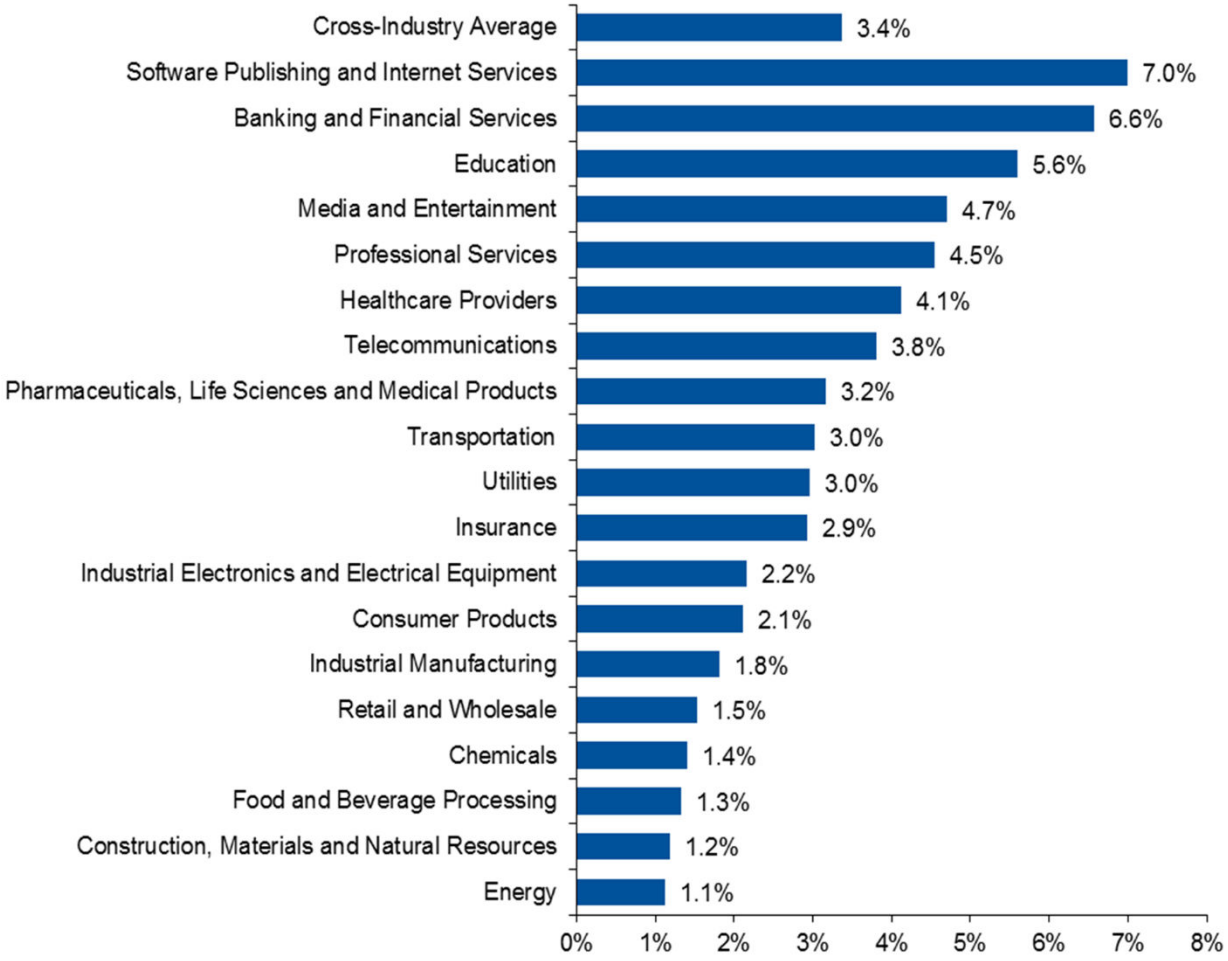


Source: Gartner IT Key Metrics Data (December 2015)

IT Spending as a Percent of Revenue, 2016 Projected

Figure 17 outlines how, in 2016, overall IT spending as a percent of revenue is projected to remain steady at 3.4%. For two-thirds of the industries the projection is that the average levels would remain the same as in 2015, and for those that do expect a change this was only by plus or minus 0.1 percentage point.

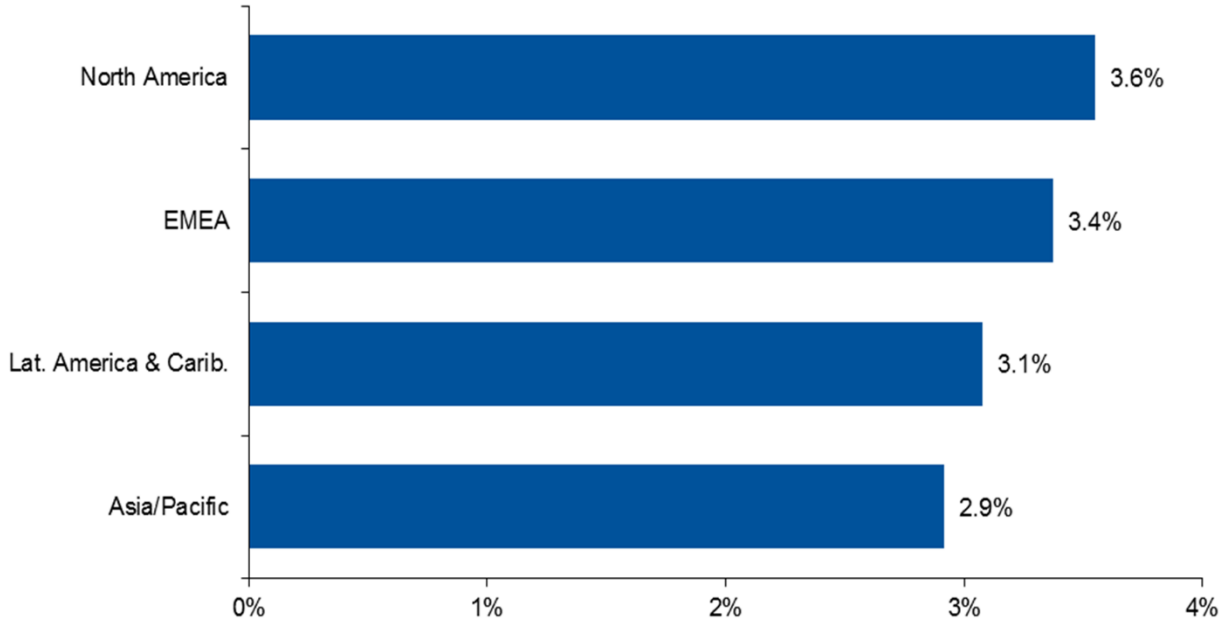
Figure 17. IT Spending as a Percent of Revenue, by Industry, 2016 Projected



Source: Gartner IT Key Metrics Data (December 2015)

Asia/Pacific, which has the lowest level of IT spending as a percent of revenue in 2015, predicted to be at the same level in 2016, whereas all other regions expect to see an increase of 0.1 percentage point over their 2015 level.

Figure 18. IT Spending as a Percent of Revenue, by Region, 2016 Projected

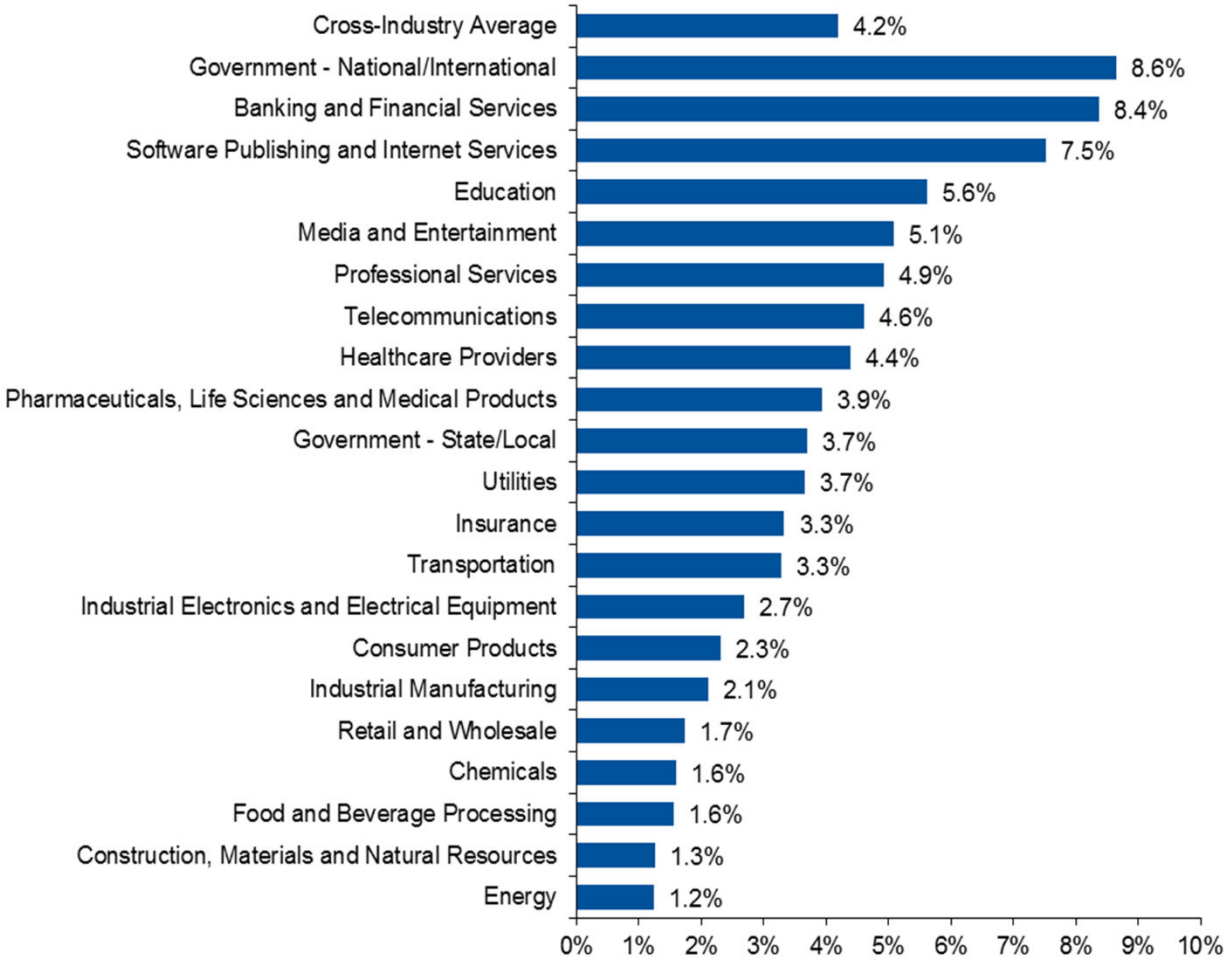


Source: Gartner IT Key Metrics Data (December 2015)

IT Spending as a Percent of Operating Expense, 2016 Projected

On average, IT spending as a percent of operating expense in 2016 (see Figure 19) is projected to decrease by 0.1 percentage point, returning to the level of 2014. The projected change ranges from a 0.1 percentage point increase in state/local government, to 0.3 percentage point decrease for the energy sector.

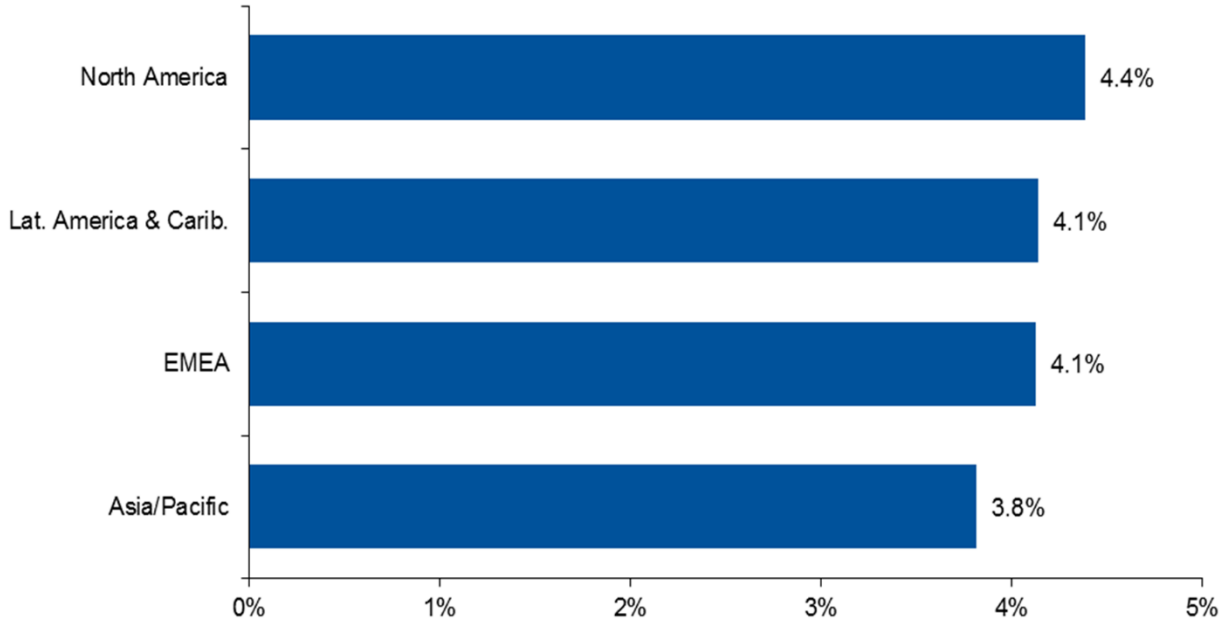
Figure 19. IT Spending as a Percent of Operating Expense, by Industry, 2016 Projected



Source: Gartner IT Key Metrics Data (December 2015)

Regionally only EMEA expects a change in the average IT spending as a percent of operating expenses compare to 2015, with a decrease of 0.2 percentage point in 2016. North America has the highest average at 4.4% compared to an average of 3.8% in Asia/Pacific (see Figure 20).

Figure 20. IT Spending as a Percent of Operating Expense, by Region, 2016 Projected

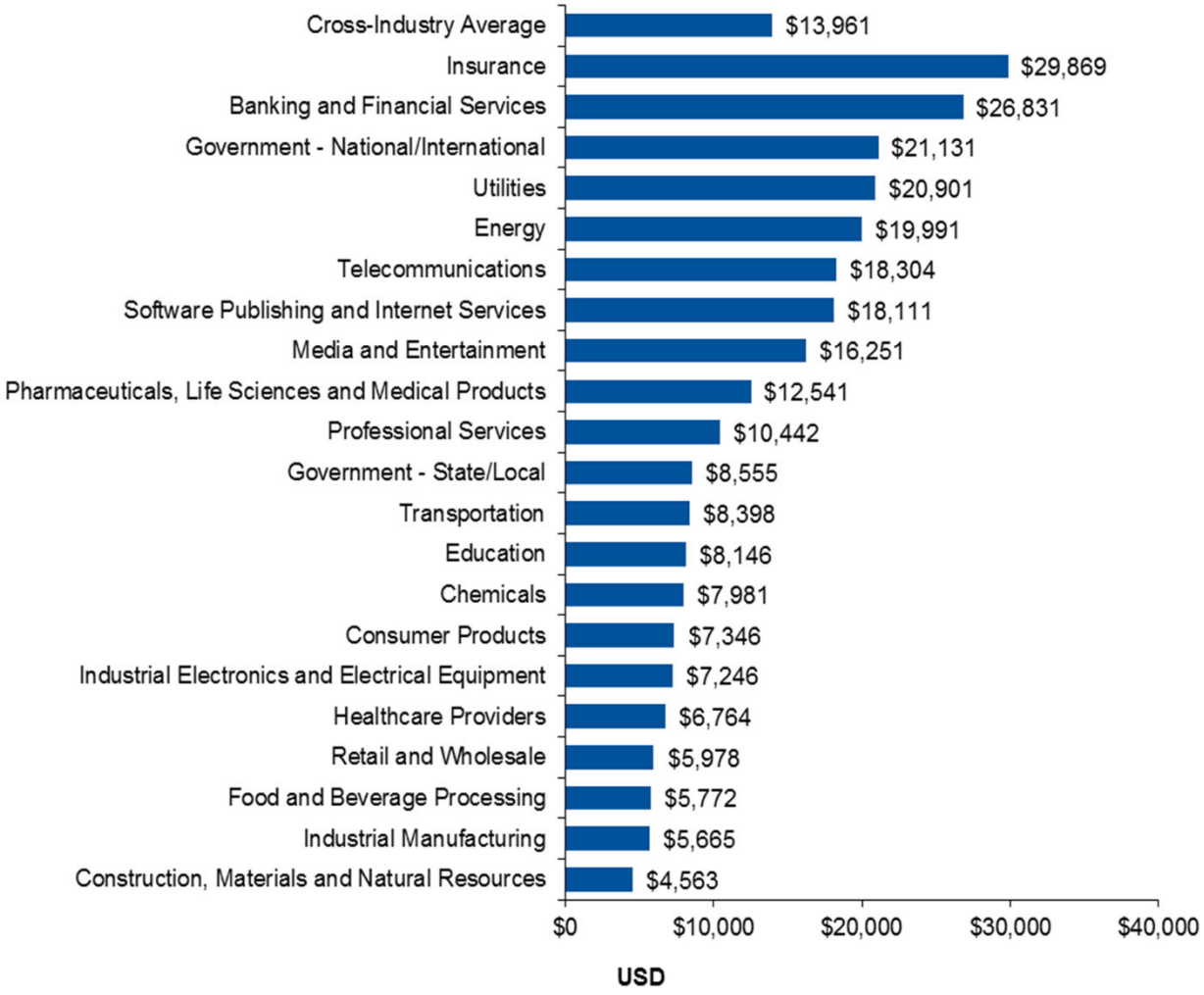


Source: Gartner IT Key Metrics Data (December 2015)

IT Spend per Employee, 2016 Projected

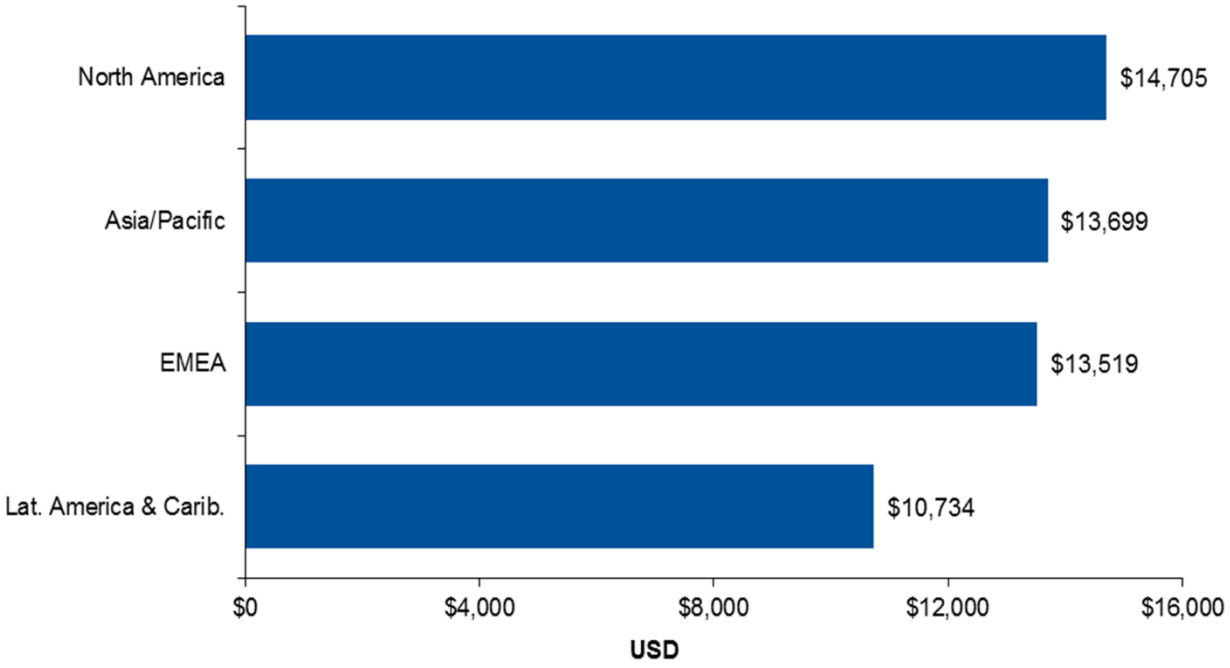
In 2016, the average IT spending per employee is projected to continue to increase over the values seen in previous years (see Figure 21 and Figure 22).

Figure 21. IT Spending per Employee, by Industry, 2016 Projected



Source: Gartner IT Key Metrics Data (December 2015)

Figure 22. IT Spending per Employee, by Region, 2016 Projected



Source: Gartner IT Key Metrics Data (December 2015)

IT Budget Distributions: Uncover the Facts

Up to this point, the figures have shown spending trends overall, without distinguishing between the strategic, financial or operational categories that compose them. Through these categories, you can draw conclusions about critical investment areas, key investment themes and competitive spending levels.

IT Operational Versus Capital Spending

IT operational versus capital spending helps to portray the IT investment profile for an organization in a given year.

IT operational expense is defined as:

> "The total day-to-day operations and maintenance expenses for this fiscal year that have not been capitalized. These do not include any amortization and depreciation expenses."

IT capital spending is defined as:

> "The total capitalized IT spending for the fiscal year (that is, the full value of capitalized assets acquired in the fiscal year). This includes investments in new application development and IT infrastructure."

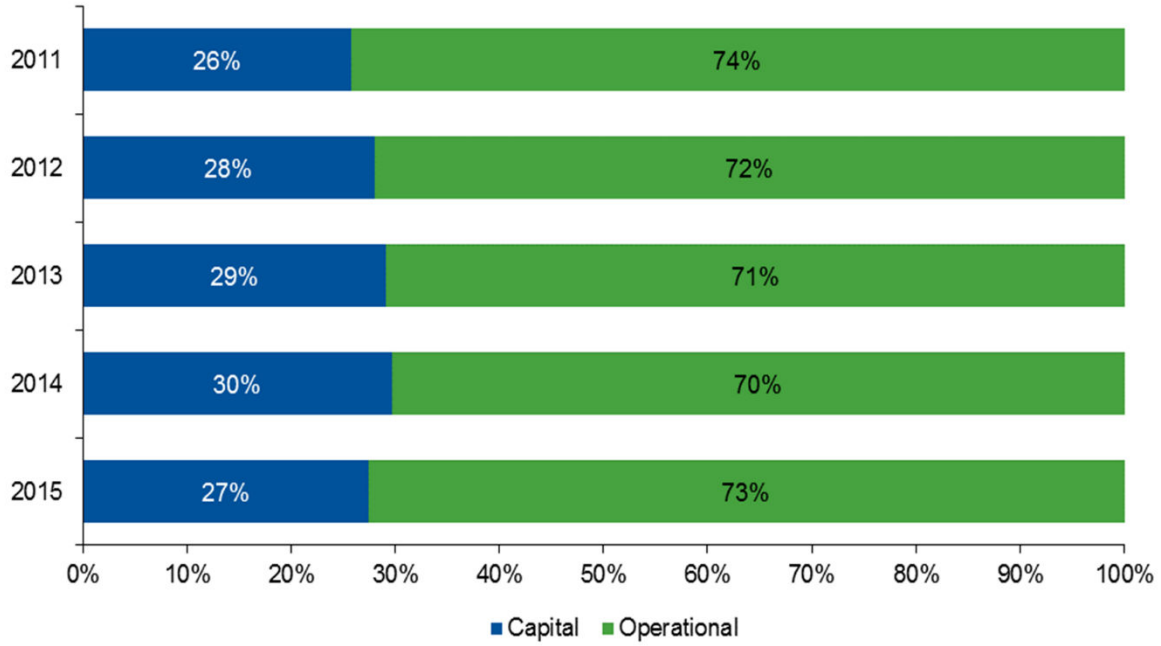
This information is typically available in most accounting or IT finance departments, and, thus, it may be easy to obtain year over year. This metric can provide visibility into the cyclical nature of

capital investments (such as hardware, software and large service contracts) compared with recurring operational expenses (such as personnel, facilities and maintenance expenses). The challenge is in leveraging this information to communicate the linkage between IT investment and business results, because it is a traditional accounting view of IT cash flow and does not highlight how IT investment enables improved business performance.

In 2015, the percentage of IT spending classified as capital dropped back compared to previous years (see Figure 23). This in part may be due to an increasing in the use of public cloud versus investments in capital assets, as well as the fact that some organizations may still be at the stage of formulating their longer term strategies to embrace the new digital economy.

It should be noted that when we look at individual organizations, we do still observe quite a wide range of different distributions between IT capital and operational expenses, and so the emphasis should be placed on understanding your organization's own position and how that relates to your IT and business strategies, and not simply on trying to conform to the Gartner average.

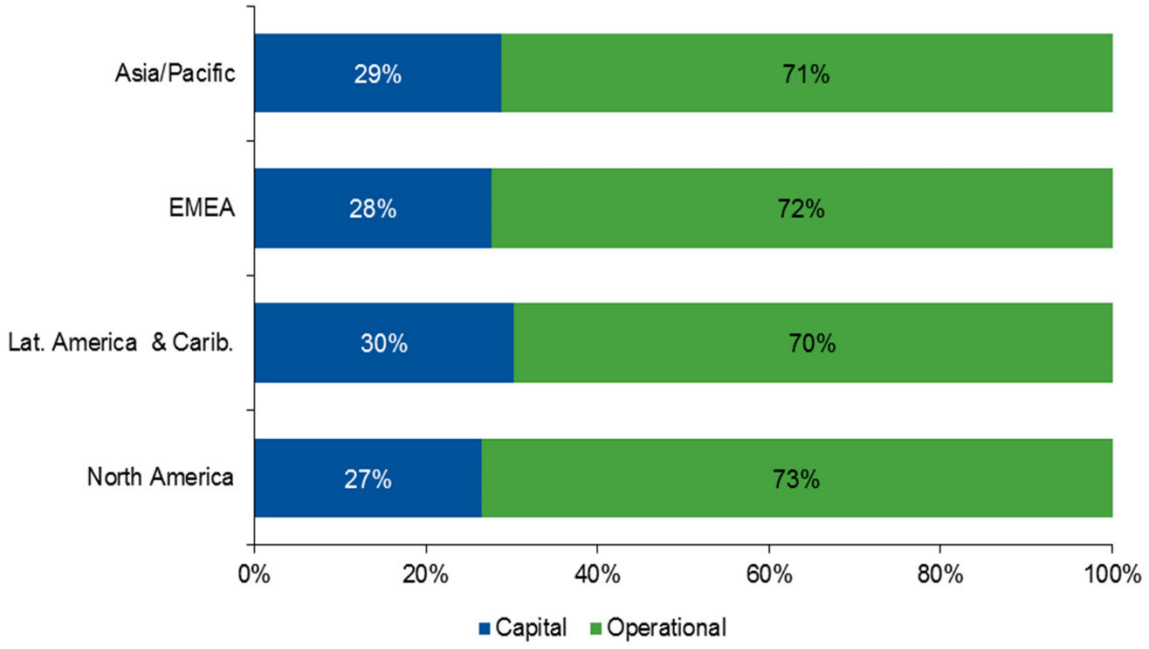
Figure 23. IT Operational Versus Capital Spending, 2011 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, North America had the lowest percentage of capital investment in 2015, at 27% of IT spending (see Figure 24). However this region also has the highest levels of IT spending as a percent of revenue and IT spending per employee which means that investments may not actually be lower in real terms. Latin America had the highest percentage of capital investment in 2015.

Figure 24. IT Operational Versus Capital Spending, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Strategic IT Spending Categories: IT Spending to Run the Business, IT Spending to Grow the Business and IT Spending to Transform the Business

The distribution of IT spending to run the business, grow the business and transform the business provides a view of the IT investment profile to support business performance. In some industries, it is not uncommon to see a high "run" focus — typically because organizations in the industry are not planning strong changes in business model growth or high organic growth — which often translates into a more "cost center" role for IT in the industry or niche sector.

Classifying IT spending into categories that show impact on business outcomes or success can aid alignment and quantify underinvestment in IT. Gartner uses the following portfolio spending categories and defines them as follows:

- **Run the business:** This is an indicator of how much of the IT resource is consumed and focused on the continuing operation of the business. It includes all nondiscretionary expenses as part of the run-the-business cost.
- **Grow the business:** This is an indicator of how much of the IT resource is consumed and focused on developing and enhancing IT systems in support of business growth (typically organic growth). Discretionary investments are more likely to be included in the grow-the-business or transform-the-business cost.
- **Transform the business:** This is an indicator of how much of the IT resource is consumed and focused on implementing technology systems that enable the enterprise to enact new business

models. This is very much a "venture" category and would be represented by activities such as an insurer introducing usage-based insurance products such as telematics or a supermarket combining real time analytic monitoring with in-store task management to provide automated alerts to store staff to perform preemptive tasks.

Gaps in business alignment can be found by examining IT spending as it relates to the day-to-day operations of a business (run), the organic growth of the business or productivity improvement (grow) and its support of major business transformation, new products, services or business models (transform).

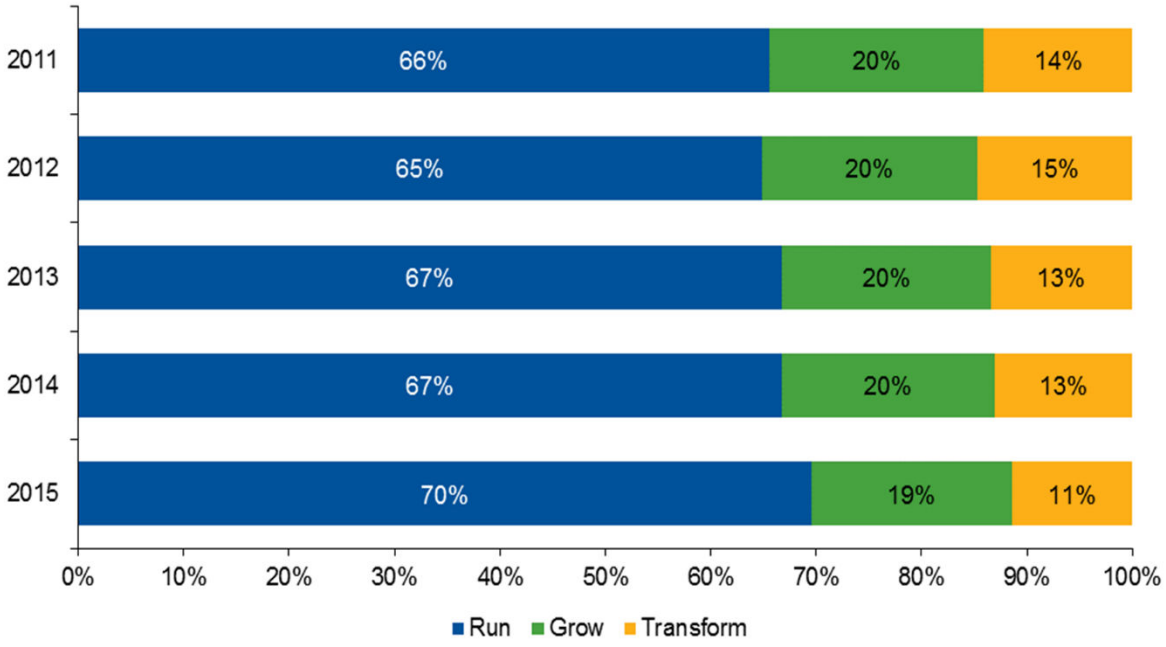
A common misconception with this measure is that an IT initiative that may transform the IT organization, such as data center modernization or virtualization, should be classified as a "transform the business" investment. While these IT initiatives do transform the IT organization, they should primarily be classified as "run the business" investments because they support pre-existing IT services. IT transformation often leads to new business process improvements that enable the business to grow or build new revenue streams. Therefore, these costs would need to be evaluated and distributed based on IT service and business performance.

The run, grow and transform business framework should always be viewed in business terms with respect to how IT will enable the business to grow or transform revenue, operating income and/or profit margins.

The average distribution of IT spending between run, grow and transform activities changed in 2015 after a number of years of being relatively similar. The run percentage increased to 70%, which may be due to a combination of factors such as greater emphasis on security (typically classed as a run activity), as well as some organizations still being a the stage of formulating their strategies for the new digital age, or only implementing this in parts of their business.

Despite the slight increase in the run percentage, the overall distribution does still suggest that organizations continue to invest in IT to help grow and transform their businesses. Although it should be noted that again Figure 25 represents the overall average, and in practice there is a much wider range of distributions for individual organizations.

Figure 25. IT Spending to Run, Grow and Transform the Business, 2011 to 2015

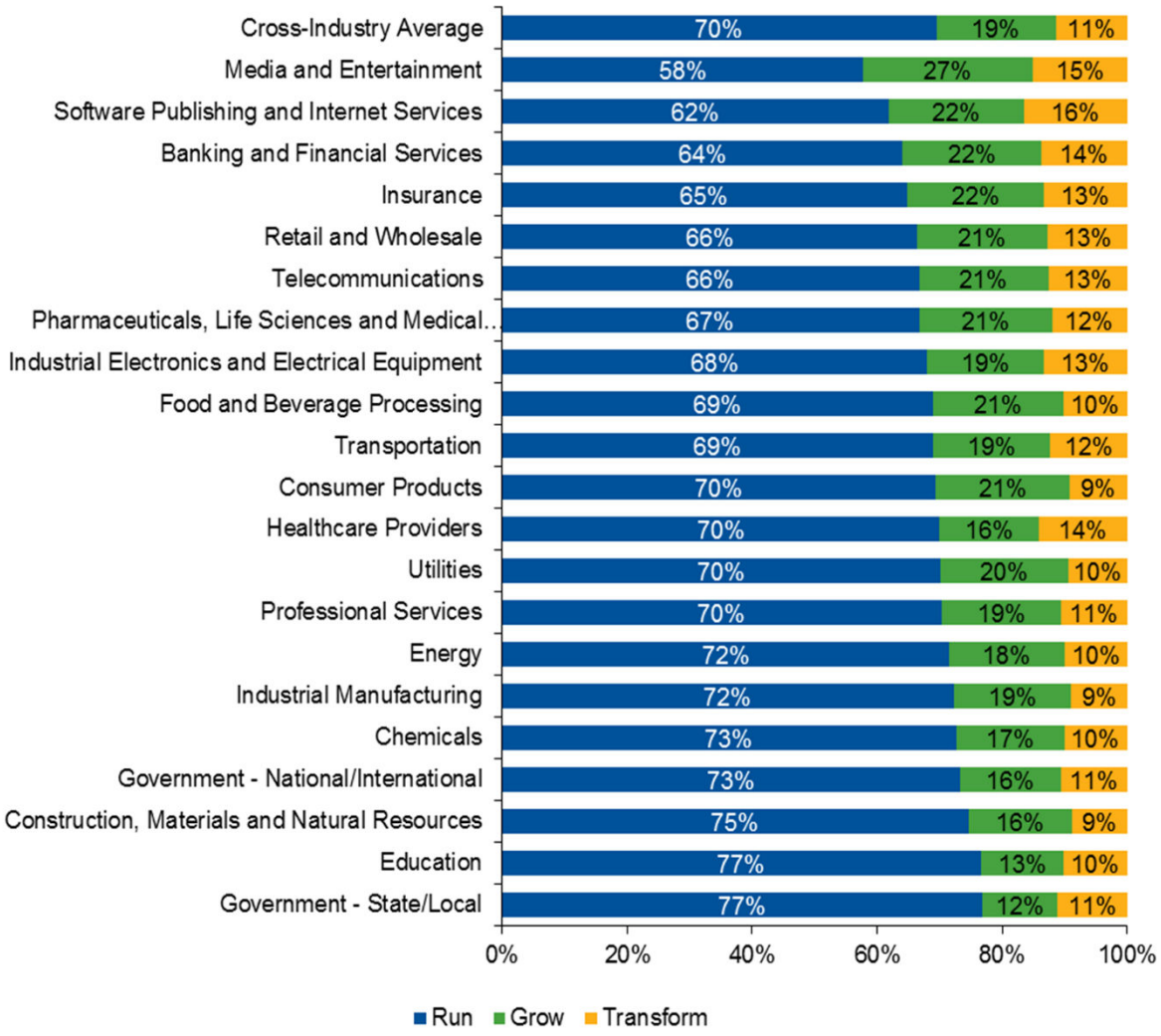


Source: Gartner IT Key Metrics Data (December 2015)

Subtle hints of an industry's IT investment profile can be seen in a higher percentage of IT spending devoted to the grow and transform categories, which comes at the expense of the run category.

Sectors that are more IT intensive such as media and entertainment, software publishing and Internet services, banking and financial services, and insurance, have the highest combined percentages of grow and transform, suggesting that these are moving more quickly to new ways of working in the digital age, while many of the manufacturing related industries, education and government are showing a much smaller percentage relating to grow and transform.

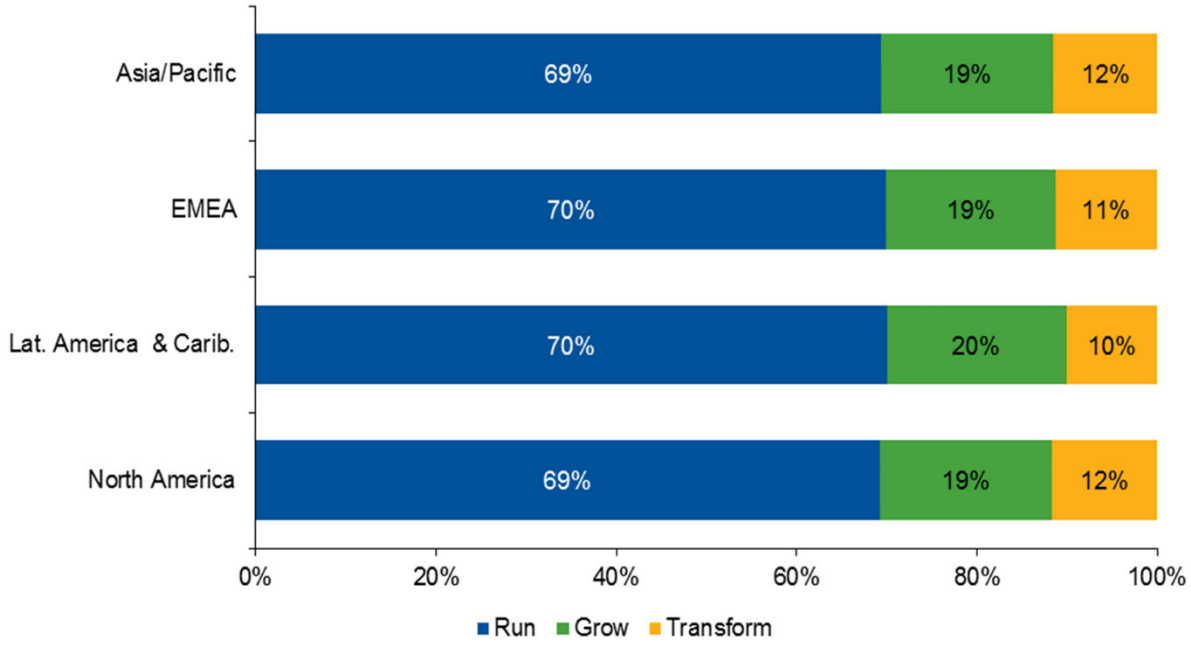
Figure 26. IT Spending to Run, Grow and Transform the Business, by Industry, 2015



Source: Gartner IT Key Metrics Data (December 2015)

All regions, on average, show a very similar distribution between run grow and transform (see Figure 27), and all have seen an increase in the run the business percentage compared to 2014.

Figure 27. IT Spending to Run, Grow and Transform the Business, by Region, 2015



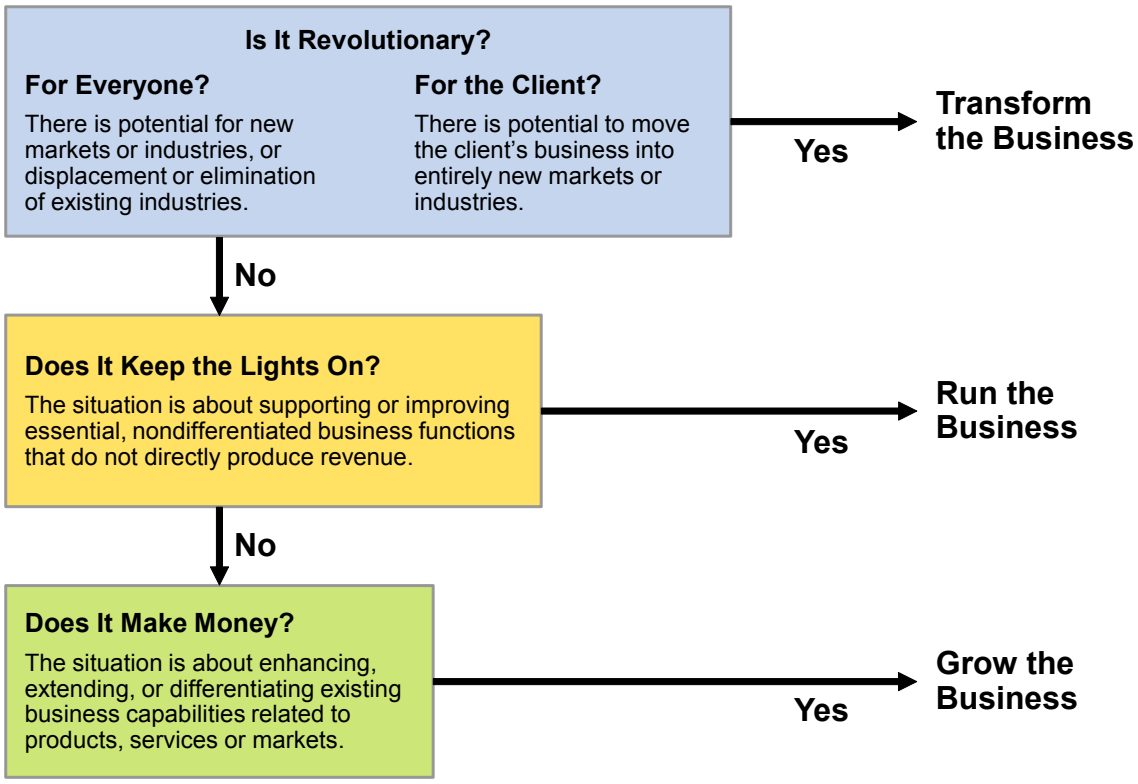
Source: Gartner IT Key Metrics Data (December 2015)

Determining the Business Context for Value

As organizations leverage the run the business, grow the business and transform the business concepts at a strategic level, Gartner has found it helpful to define various IT investments (and portions of investments) with the same basic framework to illustrate the projected impact at the individual IT initiative and project levels.

With a basic understanding of the framework, as outlined here, organizations can apply the decision tree (see Figure 28) to select the category that best describes business value for their IT initiatives.

Figure 28. Business Value Category Decision Tree



Source: Gartner (December 2015)

The Link to Strategy

The run-grow-transform framework is a starting point for the overall process of describing, forecasting and measuring IT value. Gartner believes that the initial language and metrics used for business value are critical success factors in the organization's ability to make good IT investment decisions. For organizations that are looking for best practice, consider linking individual IT services to individual business process performances in a causal chain. For more information, see "A Simple Framework to Translate IT Benefits Into Business Value Impact"; this document has been archived; some of its content may not reflect current conditions.

IT Spending Distribution: Hardware, Software, Personnel and Outsourcing, 2015

The distribution of spending between hardware, software, personnel and outsourcing costs can show the dynamics of IT investments. For the purpose of this research, personnel includes occupancy/facilities costs.

The definitions of each category are as follows:

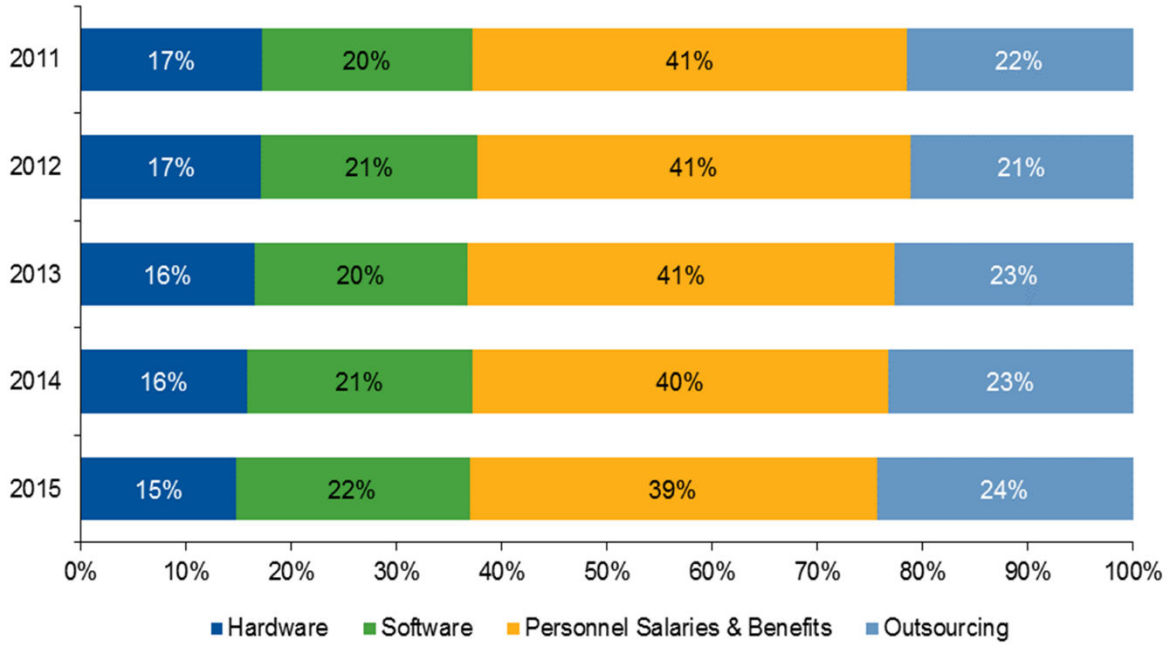
- **Hardware Expenses:** These include all hardware expenses described in the IT spending/ budget definition.

- **Software Expenses:** These include all software expenses described in the IT spending/budget definition.
- **Personnel Expenses:** These include:
  - **Salary and Benefits Expenses:** These should include salary (including overtime pay), benefits and "other" employee costs, such as travel and training for all IT FTEs. The "benefit load" should include costs for bonuses, paid holidays, vacations, medical/dental coverage, life and accident insurance, retirement plans, stock plans, disability, Social Security, unemployment compensation, dependent care, tuition reimbursements and employee assistance programs (for example, physical exams, exercise programs and similar costs).
  - **Occupancy/Facilities Expenses:** These include fully burdened costs for the facilities being used by the staff that supports the enterprise. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy costs for space dedicated to IT functions, such as the data center (including power/heat management and raised floors), are also included.
- **Outsourcing Expenses:** These include the fees for third-party or outsourcing contracts in which "outsourcing" is defined as "any situation in which the full operational responsibility for IT services is completely handed over to an external service provider (for example, print, maintenance, procurement, system management and equipment)." This includes outsourced transmission services/expenses, as well as Public Cloud IT services, such as SaaS, PaaS, and IaaS.

This measure can be helpful in adding context to the IT investment strategy from a sourcing perspective, in terms of accounting-based resources that may be insourced (for example, IT hardware, software, personnel and occupancy/facilities costs) versus services delivered by a third party (for example, outsourced services and data/voice transmission costs). As an organization increases or decreases the level of third-party/outsourced services, it may find an inverse effect in its associated personnel, hardware and/or software expenditures, depending on the scope of third-party services retained and on business requirements. The cyclical nature of capital investments in IT hardware and software may also play a significant role in an organization's IT spending outlay during a given year.

In 2015 there was slight increase in the outsourcing and software percentages, offset by a slight decrease in the personnel salaries and benefits category (see Figure 29). This has been an ongoing trend for several years, and is probably due to the uptake of public cloud services, which are included in the outsourcing category.

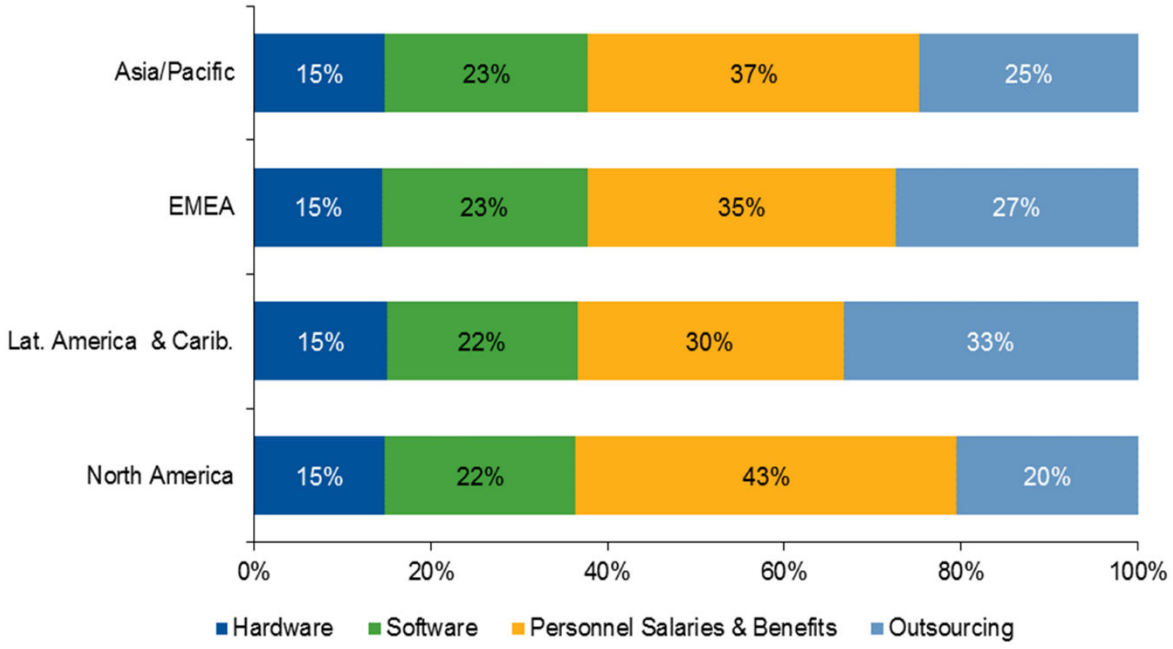
Figure 29. Distribution of IT Spending on Hardware, Software, Personnel and Outsourcing, 2011 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

Figure 30 indicates the percentage of IT spending allocated to hardware and software are similar, however the split between personnel costs and outsourcing varies with North America spending more on internal personnel and less on outsourcing. Regionally too there was a slight shift in the percentage for personnel salaries and benefits to outsourcing compared to 2014.

Figure 30. Distribution of IT Spending on Hardware, Software, Personnel and Outsourcing, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Distribution of IT Cost by IT Functional Area, 2011 to 2015

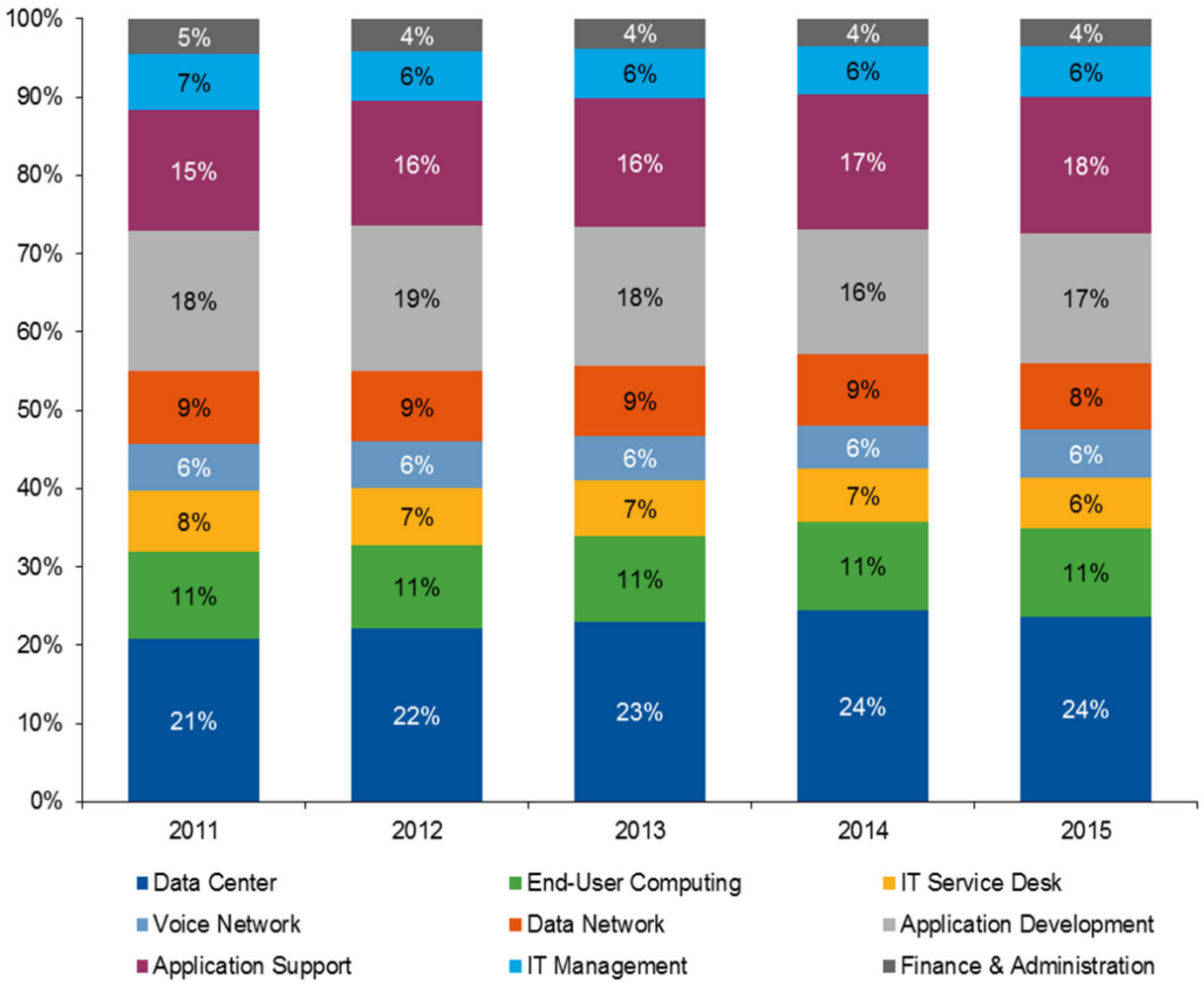
The distribution of annual IT cost by IT functional area provides a view of key IT budget consumption in the context of the overall IT portfolio:

- Definitions for the IT Functional Area Framework are defined below.
- This distribution is different from all the previous metrics because it represents an annual "expense view" of IT costs, which includes depreciation and amortization, as well as the current year's operational, lease and maintenance expenses. However, this view excludes the full capital expense outlay of the given year, to reflect the total annual cost of the IT environment.

The distribution of IT expenses into these categories helps to define the relative level of IT resources required per year to support the technology environment portfolio. This is often leveraged in tandem with IT resource planning exercises, wherein annual cost and staff resource allocations can be viewed in terms of IT infrastructure (data center, end-user computing, IT service desk, data network and voice network) versus applications (application development and application support) versus IT overhead (IT management, IT finance and IT administration). While this measure is helpful in identifying relative volumes of IT resource consumption by IT functional area, as compared to industry, it does not aid in identifying whether resources are being leveraged in a cost-effective or productive manner. For more information and ITKMD research focused on individual IT functional area cost efficiency and staff productivity, see the IT Key Metrics Data: Key Infrastructure Measures and IT Key Metrics Data: Key Applications Measures documents.

On average, in 2015, 35% of IT costs were applications related, 55% were infrastructure related, and the remaining 10% were dedicated to IT management, finance and administration activities. The total dedicated to applications has increased by 2 percentage points compared to the 2014. IT service desk and data networking percentages both decreased by 1 percentage point each. The data center continues to take the largest share of overall IT Infrastructure costs (see Figure 31).

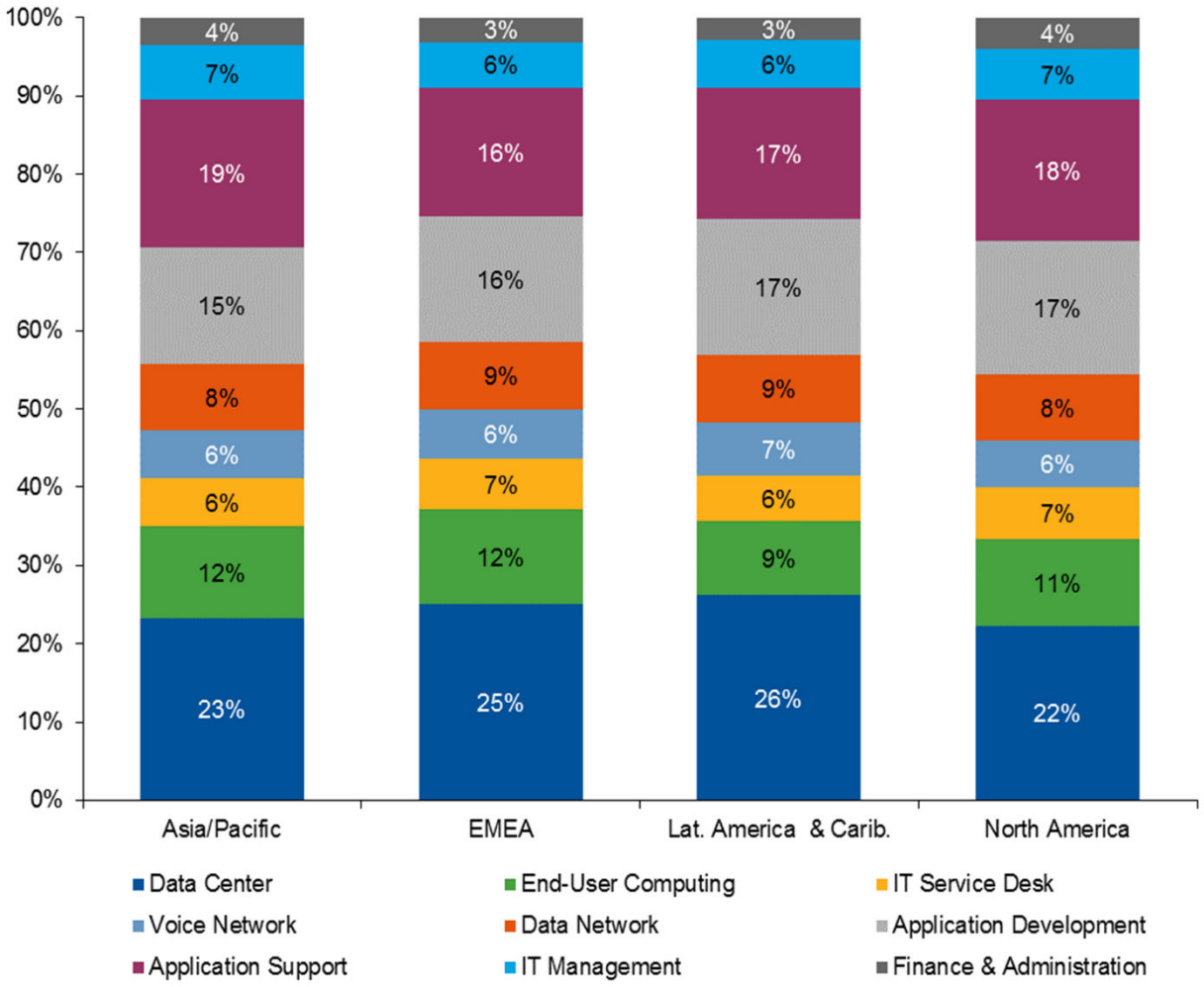
Figure 31. Distribution of IT Cost by IT Functional Area, 2011 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, North America have a lower percentage of their cost distribution attributed to the data center, while Asia/Pacific have a different distribution of applications costs compared to other regions with a greater percentage in application development and a smaller percentage in application support (see Figure 32).

Figure 32. Distribution of IT Cost by IT Functional Area, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

To better understand IT functional area cost-efficiency levels, Gartner recommends evaluating individual IT functional area annual costs compared with the workload supported, within the context of service levels, complexity, demand and scale. For more information on cost measures by IT functional area, see Gartner's various IT Key Metrics Data: Key Infrastructure Measures research (which is cited throughout this report and in the IT Functional Area Framework section).

IT Portfolio Trends: Staffing

As we have seen in preceding figures, internal staff typically represents more than one-third of the overall IT investment, which demonstrates the considerable human component of the IT portfolio. As such, it is critical for organizations to understand whether they are staffed adequately, whether their human resources are effective and whether they are sufficiently trained and motivated to meet

changing business needs. The following metrics provide a broad view of IT staffing levels among the organizations we studied.

IT Full-Time Equivalents as a Percent of Employees

IT FTEs as a percent of employees is a key measure of IT support and IT intensity from a human capital perspective.

We define an IT FTE as follows:

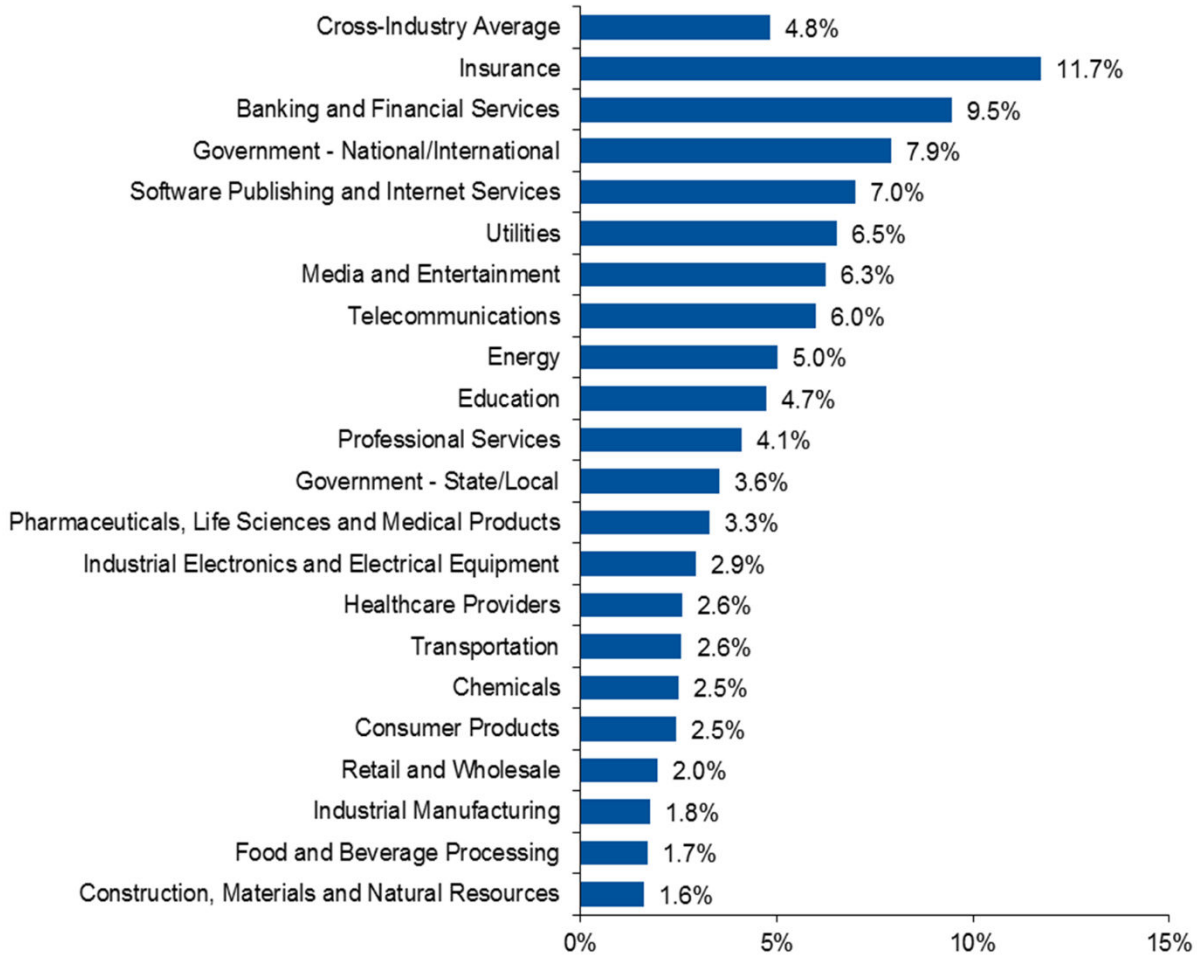
> "An IT FTE represents the logical staff to support functions performed by the physical staff, measured in calendar time. This includes all staffing levels within the organization, from managers and project leaders to daily operations personnel. This also includes insourced FTEs and contract FTEs. However, this excludes the staff of a third-party vendor (for example, IT outsourcing), which is not operationally managed by the in-house staff, but rather is managed by the vendor."

Understanding the relative level of IT staff dedicated to supporting the business can also assist in identifying whether the staff size is appropriate. This should be considered within the context of the overall enterprise sourcing strategy and future-state objectives. Variables to consider in tandem with this metric include IT staffing distribution, contract versus insourced FTEs, and IT outsourcing as a percent of IT spending, as well as the enterprise sourcing strategy — Does the total employee count accurately represent the organization's workforce that is supported by IT? Do you have the ability to track the total number of internal users supported by IT?

Despite a slight an increase in 2014, IT full-time equivalents (FTEs) as a percent of total employees continues on a slow downward trend, and in 2015 was 4.8%. This ties in with the decrease in the percentage of total IT spending attributable to personnel salaries and benefits (see Figure 29), and may be attributable to more organizations utilizing public cloud services.

Insurance companies and banking and financial services companies continue to be among the most IT-intensive employers, while industries that rely heavily on labor (for example, construction, materials and natural resources, as well as food and beverage processing) showed the lowest percentages (see Figure 33).

Figure 33. IT FTEs as a Percent of Employees, by Industry, 2015

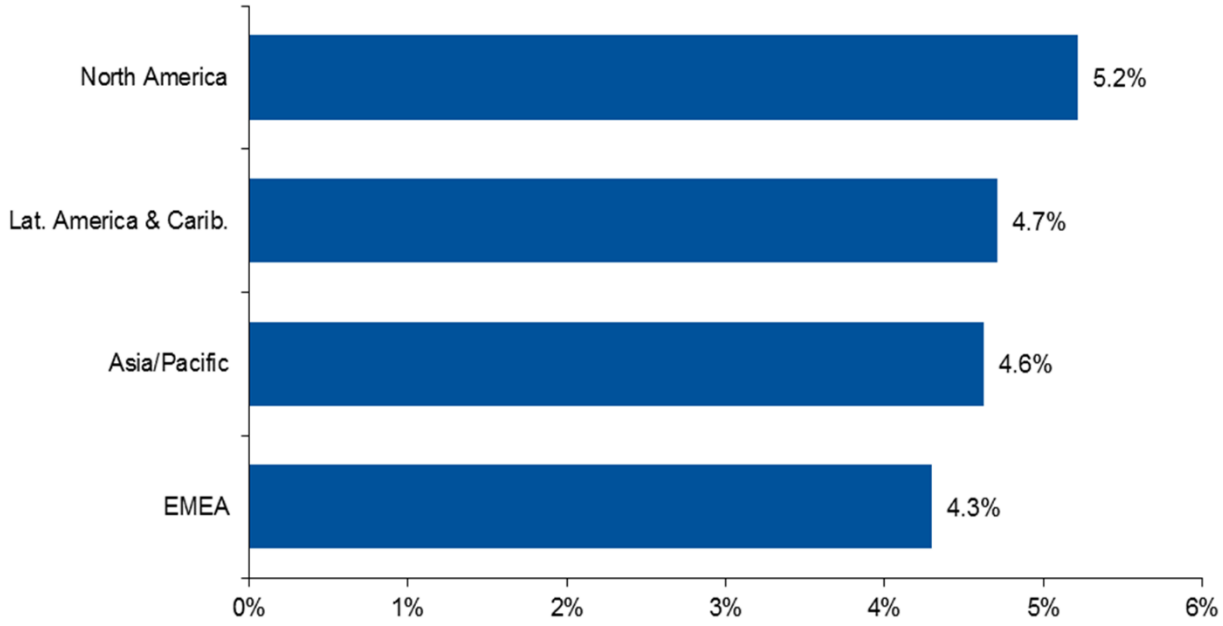


Source: Gartner IT Key Metrics Data (December 2015)

Regionally, organizations from North America have the highest average percentage of IT FTEs to employees (see Figure 34), which combined with a much lower percentage of outsourcing (see figure 30), implies that they are relying more heavily on insourced employees. (Note: outsourced FTE are not included in the IT FTE count).

The percentages for Asia/Pacific and Latin America may also be impacted because some countries in these regions have much lower salary costs, which potentially results in there being higher numbers of business employees than there would be in similar businesses in North America or Europe.

Figure 34. IT FTEs as a Percent of Employees, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Distribution of IT FTEs: Insourced versus Contractor, 2015

The distribution of IT FTEs (insourced versus contractor) can help provide a view of the IT staffing strategy.

Insourced IT FTEs are defined as:

> "FTEs who are employed by the IT organization (excluding contractors and consultants). These include all full-time and part-time employees supporting the IT environment, as defined by IT spending/budget."

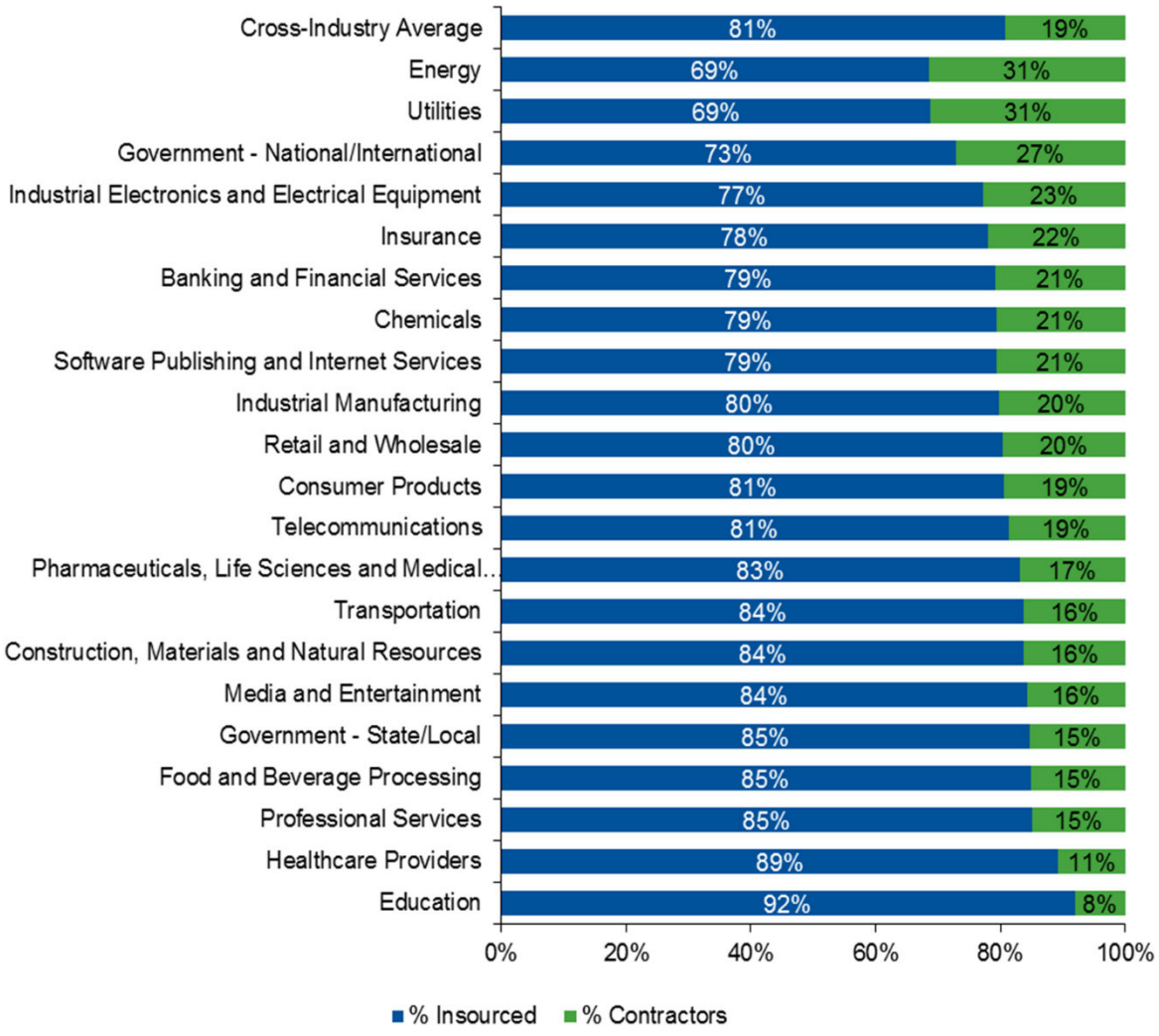
Contract IT FTEs are defined as:

> "Contract FTEs (contractors) who are supplemental to your staff and are "operationally" managed by the in-house staff. These include all full-time, part-time and temporary contractors supporting the IT environment, as defined by IT spending/budget."

IT contract labor or contractor usage can be an effective approach to maintaining flexibility and agility when business conditions are changing. However, keeping contractors for extended periods can be costly and limit process standardization.

Year to year the overall average ratio of insourced staff to contractors has not changed. However, energy and utilities now have the highest percentage of contractors at 31%, while education and healthcare providers are the least dependent on the use of contractors (see Figure 35).

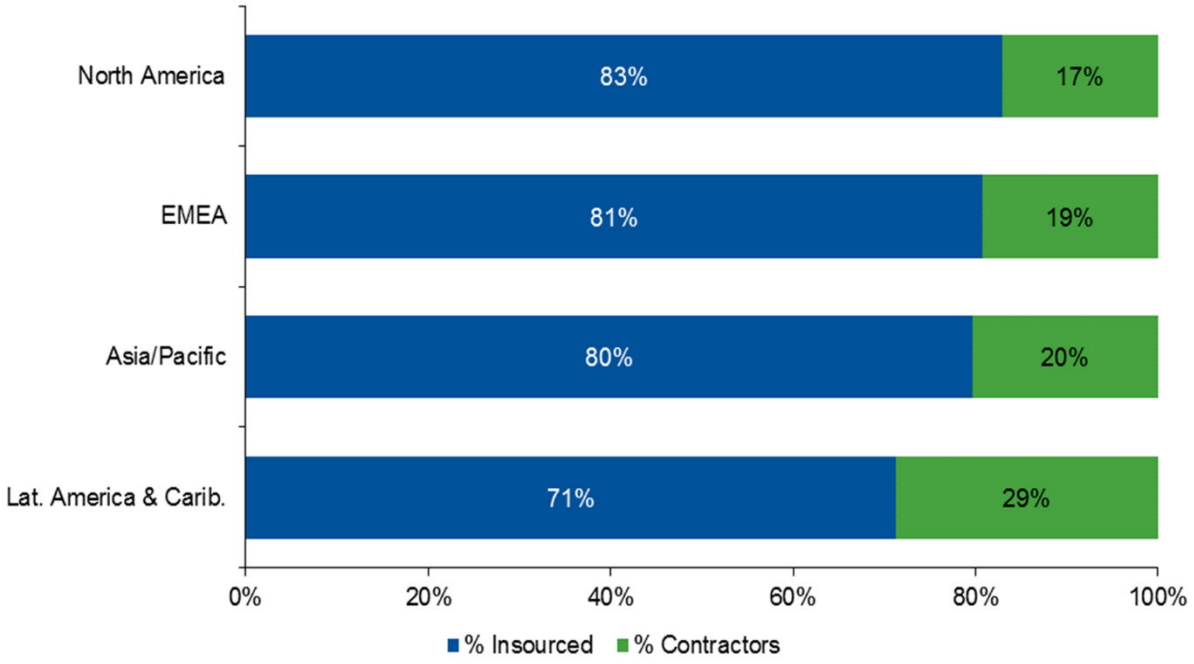
Figure 35. Distribution of IT FTEs: Insourced versus Contractor, by Industry, 2015



Source: Gartner IT Key Metrics Data (December 2015)

On a regional basis, Latin American organizations are the heaviest users of external contractors, (see Figure 36), in addition to dedicating the greatest proportion of their IT spending to outsourcing (see figure 30).

Figure 36. Distribution of IT FTEs: Insourced versus Contractor, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

Distribution of IT Staff by Role

The distribution of IT staff by role provides a view of key IT resource consumption within the context of their functional role to support the IT portfolio and operating environment:

- Infrastructure operations and software engineering roles encompass the hands-on fulfillment of day-to-day tasks related to IT infrastructure, application development and applications support. This includes:
  - Data center and network operations center activities, including production control, scheduling, physical database administration and "console" monitoring of the IT infrastructure
  - Resolving or taking action to preventing incidents (for example, providing IT service desk support, repairing malfunctioning functioning hardware and software, and applying patches)
  - Service request fulfillment (for example, electronic or manual software deployment, installation of new equipment and moves/adds/changes/deinstalls/removals of existing equipment)
  - Production control, including turnover, scheduling and monitoring
  - Programmer/analyst functions devoted to developing new applications, enhancing existing applications or maintaining currently operational applications — including all phases of

development, such as conceptual design, systems design, programming and testing of individual programs)

  - Logical database administration

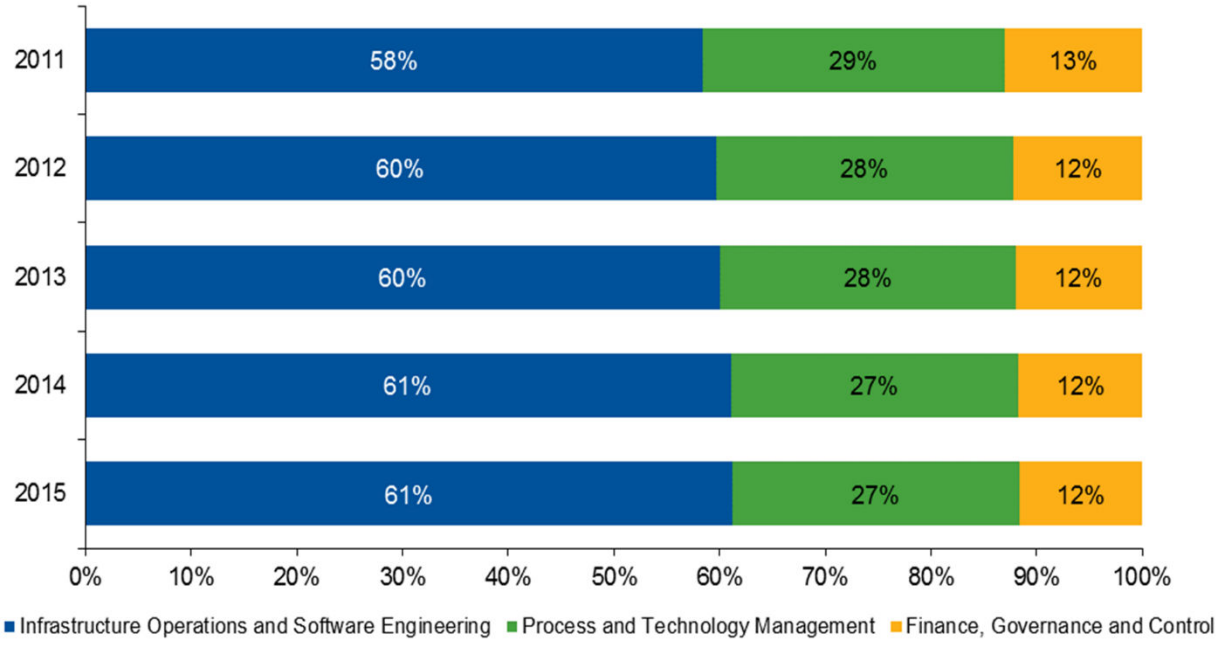
- Technology and process management roles encompass activities related to the technical and functional design of the IT infrastructure and applications environments. This includes:
  - Developing and administering processes for:
    - Change and release management
    - Technical performance monitoring and management
    - Capacity management
    - Systems/security management
    - IT disaster recovery
  - Other functions, such as:
    - Infrastructure performance tuning
    - Infrastructure load balancing
    - Application packaging and scripting for distribution
    - Image development and control
    - Infrastructure development for the application development and support environment
    - Test lab activities (other than for software development)
    - Business analyst functions
    - Research and development (non-product-related)
- Finance, governance and control roles encompass administrative activities necessary to ensure the smooth functioning of IT infrastructure and applications. This includes functions such as:
  - Financial management, budgeting and chargeback
  - Service-level administration and overall performance management
  - Procurement
  - Asset and configuration tracking
  - Contract and vendor management
  - Product management
  - Business unit relationship management and enterprise requirements management
  - Training development and implementation (for IT professionals and end users)

- Project management
- Supervisory management
- Human resource management

By assessing human resources (IT FTEs) within the context of their functional roles and objectives, organizations are able to view human resources from an operational, technical and administrative perspective (see Figure 37). Unsurprisingly, operational activities make up the largest percentage at 61%, while 12% of IT FTEs are classified as administration. Organizations will make trade-offs among these three types of activities. For example, if finance, governance, and control and process and technology management are too low, then demand for infrastructure operations and software engineering will likely increase, while quality suffers.

However, there will be a point of diminishing returns in adding these resources, where overall costs rise and organizational "bloat" sets in. The degree to which an organization effectively leverages third-party outsourced services will also impact this distribution as a greater level of outsourcing will lead to a reduction in requirements for infrastructure operations and software engineering roles, and therefore increase finance, governance and control based roles to manage those vendor relationships and contracts.

Figure 37. Distribution of IT Staff by Role, 2011 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

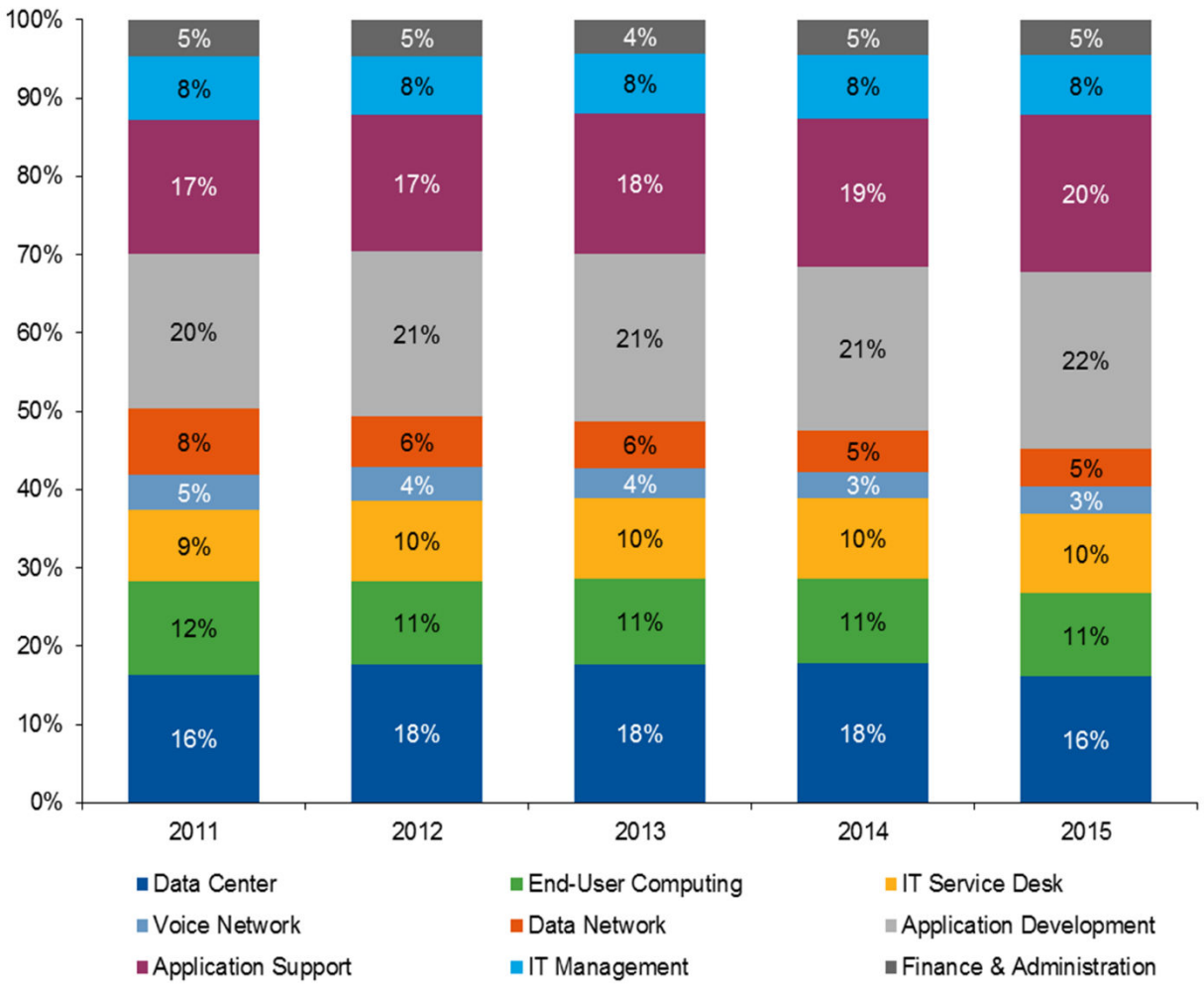
Distribution of IT Staff by IT Functional Area

The distribution of IT staff by IT functional area provides a view of key IT resource consumption in the context of the overall IT portfolio. Definitions for the IT Functional Area Framework are below.

By viewing human resources (IT FTEs) within the context of the total portfolio, organizations are able to identify which environment is the most labor-intensive as a percent of the IT labor pool. Typically, application activities (development and support) demand the most resources from both cost and staffing perspectives. The degree to which an organization outsources should be considered alongside such staffing metrics.

2015 saw only a small change from the 2014 distribution of staffing, with a 1 percentage point increase in both application development and application support, and a 2 percentage point decrease in data center resources.

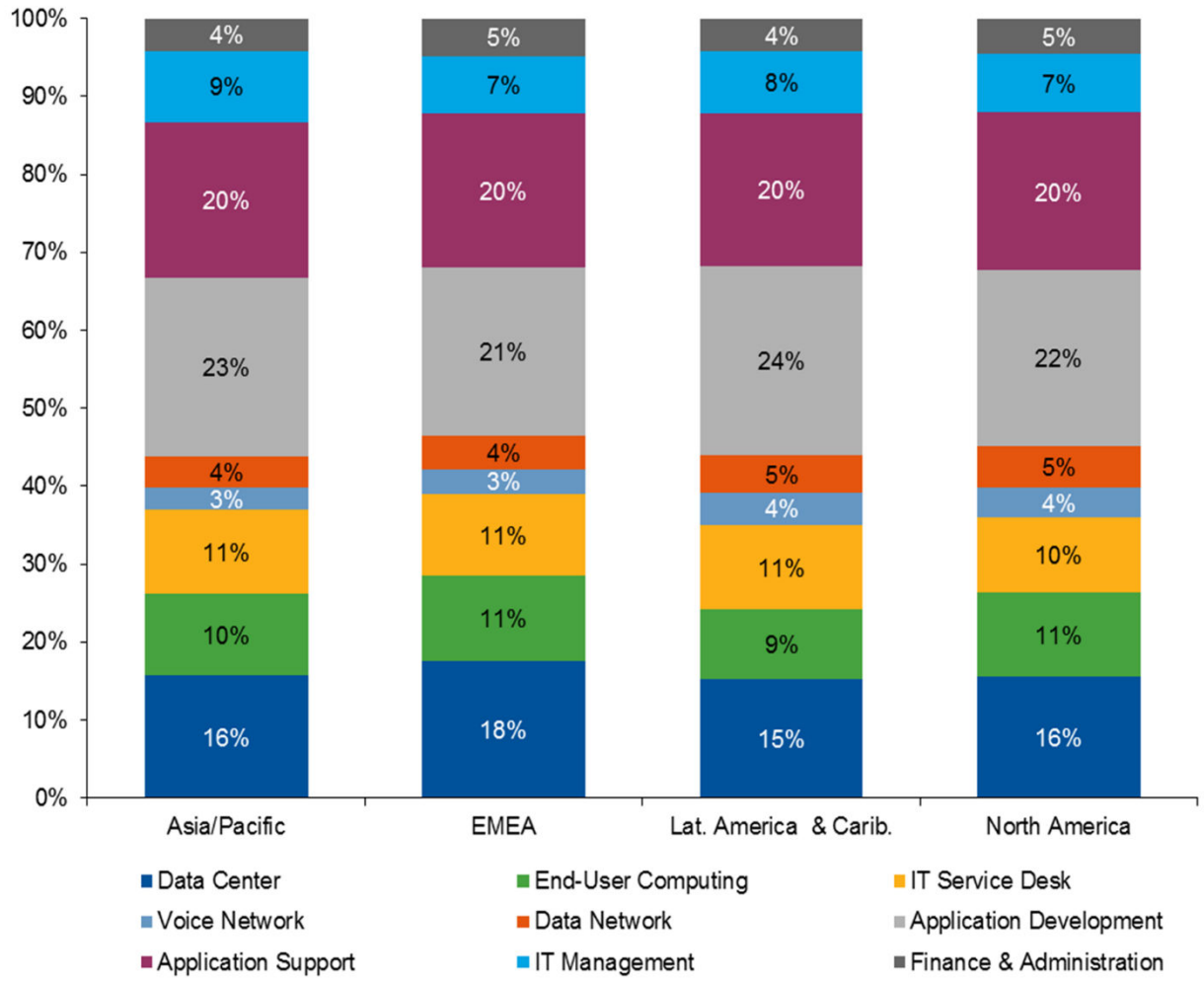
Figure 38. Distribution of IT Staff by IT Functional Area, 2011 to 2015



Source: Gartner IT Key Metrics Data (December 2015)

Regionally, EMEA has a higher average percentage of staffing in the data center and a lower percentage for application development, while Latin America is the opposite with a higher percentage in the application development and a lower percentage in data center.

Figure 39. Distribution of IT Staff by IT Functional Area, by Region, 2015



Source: Gartner IT Key Metrics Data (December 2015)

To better understand IT functional area staff productivity levels, Gartner recommends evaluating individual IT functional area staffing levels compared with the workload supported, within the context of service levels, complexity, demand and scale. For more information on productivity measures by IT functional area, see Gartner's various IT Key Metrics Data: Key Infrastructure Measures, research (which is cited throughout this report and in the IT Functional Area Framework section).

IT Functional Area Framework

The following sections provide guidance on how to count costs and FTE numbers, as defined by the scope of the IT functional area framework/chart of accounts. This includes costs associated with the operation, lease, maintenance, and depreciation of hardware, software, connectivity, disaster recovery, occupancy/facilities and personnel to support the environment as defined below.

Data Center

Note: Data center (enterprise computing, storage and facilities) includes Windows, Unix and Linux servers, mainframe, storage, and any other platform running in the data center.

Hardware

- Processing devices: Include all hardware in server platform configurations, including internal disk storage, controllers, external disk arrays, tape libraries, optical jukeboxes, processors, memory, cards and other offline media supplies.

Software

- Annual costs for host and virtual OS licenses, virtualization and partitioning software, utilities, databases, middleware, content/document management search engines, messaging, communications (TCP/IP, FTP and host-based) and server security software.

Connectivity

- Intra-data-center connectivity: This typically includes routers, switches, load balancers, controllers and appliances. Data center communication networks are dedicated networks that are segregated or isolated from the general-purpose LANs or WANs. General-purpose or shared network costs are excluded from the data center and should be allocated to the data network.
- Inter-data-center connectivity: This typically includes the transmission cost and hardware cost for the fiber, used and unused (dark fiber), and the switches and controllers. Data center remote communication networks are dedicated networks that are segregated or isolated from the general-purpose LAN or WAN. General-purpose or shared network costs are excluded from the data center and should be allocated to the data network.

Disaster Recovery

- Includes disaster recovery contracts (compute and communications) for hot sites (shell facilities), dedicated hardware, software and connectivity.

Facilities/Occupancy

- Costs for power/heat management, furniture, access systems, office space, raised floor and / or slab using overhead cable trays etc.

Personnel

- Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration, and facilities management.

For more detailed information, see "IT Key Metrics Data 2016: Key Infrastructure Measures: Windows Server Analysis: Current Year," "IT Key Metrics Data 2016: Key Infrastructure Measures: Unix Server Analysis: Current Year," "IT Key Metrics Data 2016: Key Infrastructure Measures: Linux x86 Server Analysis: Current Year," "IT Key Metrics Data 2016: Key Infrastructure Measures: Mainframe Analysis: Current Year" and "IT Key Metrics Data 2016: Key Infrastructure Measures: Storage Analysis: Current Year." (Access to these documents is dependent on your level of Gartner subscription.)

End-User Computing

Hardware

- User client and peripheral hardware: desktop, laptop, thin-client and tablet PCs, personal and shared printers, multi-functional printers (MFPs or MFDs), handheld devices such as smartphones, and messaging devices. Transmission costs for these devices are excluded and should be allocated to the data network.
- IT management hardware: This encompasses hardware that primarily supports an IT process, not a business or user process. Examples are test and training devices, servers hosting network and system management (NSM) or asset management software, and devices used by the IT staff supporting the end-user computing environment. This also includes supporting a hosted virtual desktop (HVD) installation.

Software

- User client software.
- Personal productivity and database: This includes new word processors, spreadsheets, presentation packages, personal databases and other personal productivity software executing on client systems. It also includes upgrades.
- Messaging and groupware: This includes new and upgraded email, groupware and collaboration software.
- IT Management Software: This includes IT software that is used exclusively for IT functions including network, systems, storage and asset management, training and computer-based training (CBT) software as well as security software (antivirus, personal firewall, encryption, etc.) as well as mobile device management which offers software distribution, policy management, inventory management, security management and service management for smartphones and media tablets. This also includes supporting a hosted virtual desktop (HVD) installation.

Disaster Recovery

- Annual costs of hardware, software, connectivity, occupancy and contracts specifically dedicated to disaster recovery for end-user computing.

Occupancy

- Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the end-user computing environment. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel

- Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

For more detailed information, see "IT Key Metrics Data 2016: Key Infrastructure Measures: End-User Computing Analysis: Current Year." (Access to this document is dependent on your level of Gartner subscription.)

IT Service Desk

Hardware

- PBX, ACD, interactive voice response, computer-telephony integration, IT service desk end-user computing devices, and IT service desk application servers.

Software

- This includes all software that is necessary to operate the IT service desk, such as expert knowledge tools, problem management tools, quality monitoring, self-service, workforce management software, workflow management software and IT service desk management portal software.

Occupancy

- Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the IT service desk environment. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Transmission

- Includes inbound 800 service, dedicated trunking, local service, outbound long distance, Internet access (for example, IT service desk portal) and networking between IT service desks.

Disaster Recovery

- Annual costs of hardware, software, connectivity, occupancy and contracts specifically dedicated to disaster recovery for IT service desk.

Personnel

- IT service desk agents, operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

For more detailed information, see "IT Key Metrics Data 2016: Key Infrastructure Measures: IT Service Desk Analysis: Current Year." (Access to this document is dependent on your level of Gartner subscription.)

Voice Network

Note: Total voice network includes voice premise technology and wide-area voice network costs, as well as dedicated cellular (mobile) voice network costs.

Hardware

- Wide-area voice network hardware: Switching and routing, as well as terminating hardware. Terminating hardware includes microwave, satellite, compression, multiplexer/channel bank, PBX network interface card and channel service unit/data service unit (CSU/DSU).
- Voice premise: Telephone system equipment (such as voice switch/server and peripherals, including modules and uninterruptible power supply [UPS]), premise system phones (voice only; smartphones such as BlackBerry, iPhone and Android-based devices are excluded and should be allocated to the end-user computing environment), voice mail hardware (for example, processors and storage) and message authentication control (MAC) materials.
- IT management (network operations center [NOC]): This includes hardware that is located within a client's NOC and is used to support a client's centrally managed voice infrastructure/network. This includes client devices (PCs on NOC desktops) as well as servers (NOC), located within the NOC or elsewhere, but used primarily by the NOC to support the voice network infrastructure. The costs for these client devices/servers may need to be prorated between voice and data services, depending on a client's NOC environment.

Software

- Switch/voice server and peripherals (e.g., automatic call distribution [ACD], voice response unit [VRU]) and voice mail software costs.
- IT management (NOC): Software used by the NOC primarily to support/manage a client's voice networks. The costs for this software may need to be prorated between voice and data services, depending on a client's NOC environment.

Transmission

- Includes all outbound and inbound transmission costs. It also includes the annual cost for local central office lines (where applicable) as well as cellular (mobile) voice only transmission costs.

Disaster Recovery

- Disaster recovery contracts (communications) for hot sites (shell facilities), dedicated hardware, software, and connectivity.

Occupancy (For Personnel Only)

- Occupancy costs should include fully burdened costs for the facilities being used by the staff supporting the voice network service. Some examples would include office space, furniture, electricity, maintenance, property taxes, security and office supplies. Occupancy for hardware (for example, closet space) is specifically excluded (that is, occupancy costs should apply only to the people supporting a client's voice network).

Personnel

- Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

For more detailed information, see "IT Key Metrics Data 2016: Key Infrastructure Measures: Voice Network Analysis: Current Year," "IT Key Metrics Data 2016: Key Infrastructure Measures: Wide-Area Voice Network Analysis: Current Year" and "IT Key Metrics Data 2016: Key Infrastructure Measures: Voice Premise Technology Analysis: Current Year." (Access to these documents is dependent on your level of Gartner subscription.)

Data Network

Note: Data network includes WAN, LAN and Internet access services (IASs), as well as dedicated cellular (mobile) data network costs:

- WAN: Connectivity and transmission of business-critical data between enterprise locations and business partners
- LAN: Accounts for the provisioning of communications and connectivity to critical business systems within enterprise sites and campuses (Note: Costs associated with permanent building cabling, horizontal and vertical, are excluded. Likewise, costs for any interbuilding cabling — copper and/or fiber — that would be found on a campus are also excluded.)
- IAS: Enterprise access to the global Internet, for the use of its personnel and for the use of its external customers to access enterprise websites

Hardware

- Security hardware: Dedicated data network firewall hardware/servers, intrusion/detection servers and devices, as well as encryption hardware.
- NOC hardware: This includes hardware that is located within a NOC to support a centrally managed data network infrastructure/network. This includes test equipment and remote monitoring equipment, client devices (PCs on NOC desktops) and network management servers (NOCs).
- Switching, routing and wireless hardware, including switches and routers, multiplexers, satellite equipment, boundary (branch) routers, backbone routers and bridges, and wireless access points.
- Other dedicated data network hardware, including Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP) servers, optimization equipment such as Internet load-balancing hardware, UPS, MAC hardware and MAC cable (closet to desktop).

- Some of this may need to be prorated between the voice and data network.

Software

- Security software: Dedicated data network firewall software, intrusion/detection software as well as encryption software.
- NOC software: All NSM software costs related to the NOC's support of the data network infrastructure/network.

Transmission

- Annual data network transmission costs, such as carrier digital services including Frame Relay access, ports and PVCs (Permanent Virtual Circuits), ATM (Asynchronous Transfer Mode) access, ports and PVCs, MPLS (Multiprotocol Label Switching) access, ports, and CARs (Committed Access Rates) which also includes specific charges for Quality of Service (QoS) commitments, sometimes referred to as traffic shaping, T3/E3, dial backup service, Synchronous Optical Network (SONET), metropolitan Ethernet, and dark fiber, as well as annual cost for circuits connected to the Internet service provider, and cellular (mobile) data transmission costs.

Disaster Recovery

- Disaster recovery contracts (communications) for hot sites (shell facilities), dedicated hardware, software, and connectivity.

Occupancy (For Personnel Only)

- Fully burdened costs for the facilities being used by the staff supporting the data network. Some examples include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel

- Operations/maintenance, engineering technical services, planning and process management, service administration, management and administration.

For more detailed information, see "IT Key Metrics Data 2016: Key Infrastructure Measures: Data Network Analysis: Current Year," "IT Key Metrics Data 2016: Key Infrastructure Measures: Wide-Area Data Network Analysis: Current Year" and "IT Key Metrics Data 2016: Key Infrastructure Measures: Local-Area Data Network Analysis: Current Year." (Access to these documents is dependent on your level of Gartner subscription.)

Applications

Application Development

- New code for a new application and functional enhancements to the current code that take more than two person-weeks, or that typically add eight function points or more. A "functional

enhancement" is defined as "a change made for a user that allows additional capabilities (from a business point of view) that were not there before. In some environments, major enhancements can actually be added in less than two person-weeks. If this is the case, and eight function points or more are added (about 800 lines of COBOL or 300 lines of a database language), then this is still categorized as development.

Application Support

- Bug fixes of any size or duration, maintenance of hard-coded data or tables (including field size changes) embedded within the programs (any size or duration), and functional enhancements to current code that take less than two person-weeks and typically add fewer than eight function points, or any project that produces no new business functionality for the user.
- A "functional enhancement" is defined as "a change made for a user that allows additional capabilities (from a business point of view) that were not there before." In some environments, major enhancements can actually be added in less than two person-weeks. If this is the case, and eight function points or more are added (about 800 lines of COBOL or 300 lines of a database language), then this is categorized as development rather than support.

Hardware

- This includes only hardware (mainframes, servers, end-user computing devices) used by the application development or support staff members to do their jobs (that is, client devices as well as servers and a portion of the mainframe used for application development and testing). This excludes end-user or production hardware.

Software

- Development and support software required by the application development and support staff members to do their jobs. It may include the languages/compilers/databases, development/testing tools and IT management software tools, such as project estimators and project schedulers.
- Business functionality software: For application support, this includes the maintenance cost of off-the-shelf vendor packages, as well the annualized cost of the software.

Occupancy

- Fully burdened costs for the facilities used by the development or support staff and included in this analysis view. Some examples would include office space, furniture, electricity, maintenance, property taxes, security and office supplies.

Personnel

- Application development: This includes staff involved in developing new applications, enhancing existing applications, installing new packages and installing major functional enhancements to existing packages.
- Application support: This includes staff involved in supporting applications that exist within the current portfolio. It also includes personnel who are responsible for fixing programming

problems uncovered when applications are running in production. It does not include any personnel who are responsible for running the production applications. If an upgrade for a packaged application primarily contains fixes for existing problems, then the efforts involved in installing such a maintenance upgrade are included in application support.

For more detailed information, see "IT Key Metrics Data 2016: Key Applications Measures: Cost and Staff Profile: Current Year," "IT Key Metrics Data 2016: Key Applications Measures: Application Development: Current Year" and "IT Key Metrics Data 2016: Key Applications Measures: Application Support: Current Year." (Access to these documents is dependent on your level of Gartner subscription.)

Corporate IT Management

Only include functions that are at a level within the IT organization that, after best effort, cannot be allocated to an IT functional area.

Office of the CIO/CTO

- This includes the "C-level" IT management, including the CIO and CTO functions. Also included here are the direct reports of the CIO, who spend the majority of their time providing enterprise-wide support other than the functions outlined below (that is, special projects).

IT Human Resources

- This includes resources dedicated to human resource issues surrounding the recruiting and retention of IT staff.

IT Marketing

- This includes resources dedicated to marketing the capabilities of the IT organization to the business units.

Technology Planning and Process Management

- This includes activities related to the planning for and management of current and future technology needs, and the establishment of policies and processes relating to technology. This also includes, but is not limited to, systems research, product management, technology evaluation and purchase decision making, the establishment of processes surrounding security and virus protection, and business continuity/recovery.

Disaster Recovery

- This includes resources dedicated to planning, testing and implementing contingency procedures across all IT functions. This also includes the staff dedicated to safeguarding the enterprise's ability to continue operations of vital business functions following physical damage or other catastrophes that impact business facilities. Responsibilities include:
    - Maintaining disaster recovery documentation

- Negotiating contingency site arrangements and serving as liaison with the vendor
- Managing off-site data retention

Security

- This includes resources that oversee the development of standards and procedures for ensuring overall network and systems integrity.

IT Finance and Administration

Only include functions that are at a level within the IT organization that, after best effort, cannot be allocated to an IT functional area.

IT Administration

- This includes direct administrative and clerical support to enterprise-level IT. Positions include secretary, receptionist and administrative assistant.

Budget and Chargeback

- This area establishes the overall IT budget, monitors actual expenses versus the budget, arranges financing for purchases and performs financial reporting to other enterprise areas. Staff members also handle the operation of the chargeback system. Positions include financial analyst and chargeback administrator.

Asset Management

- Tracking: This area provides the administrative support for tracking systems and system components. It accounts for labor and contract costs for managing depreciation records and lease contracts, performing asset inventories (physical or automatic management), asset identification and tracking, asset database management, change recording and reconciliation. It also includes the creation and maintenance of an up-to-date record of installations, moves, adds, changes, removals and final disposal of all assets (for example, hardware, software and circuits). The record contains information for locating, assessing, auditing, troubleshooting, counting and assigning assets, or performing other technical and business functions without the need to repeatedly visit the asset location or reassemble data records. It also includes the determination of an asset's useful life, including planning for the installation, upgrade, and removal/disposal of the asset and executing the plan.
- Procurement: This area solicits bids, negotiates purchasing agreements, establishes purchase orders, validates vendors' bills, coordinates with accounts payable for payments and handles contract administration.

Quality Assurance

- This includes staff responsibility for monitoring, tracking and recommending solutions for improving the content and delivery of services provided by the customer service contact center.

Training

- This refers to the primary source for the delivery of training within the IT organization and for end users in the business units. This area may also prepare the training materials, evaluate employee skills and assist in the creation of custom training programs for the organization.

Conclusions

A successful IT performance measurement program communicates metrics that are important to a target audience. This remains true when communicating IT investments to the business. The metrics and benchmarks that Gartner has identified here provide a high-level view of current trends in IT by industry. They also reveal trends in business alignment, staffing, technology and outsourcing. They can be used to assist in communicating alignment with the business and in evaluating targets in key technology areas. They provide context for key business decisions and internal performance measures.

It is important to understand that the published averages are not targets, and decisions of "good" or "bad" performance should not be based on these metrics. They are indicative reference points from which to view current performance and investment levels to help you identify differences that could merit further analysis. Articulating why your organization is higher or lower than these metrics is the first step in better business alignment and the communication of IT's impact on business performance.

For more detailed metrics focused on IT infrastructure cost and performance, consult Gartner's various IT Key Metrics Data: Key Infrastructure Measures research, which can help provide more insight into IT-centric cost-efficiency and productivity metrics.

For more detailed metrics focused on IT application spending, staffing and project measures, consult Gartner's IT Key Metrics Data: Key Applications Measures research, which can help provide more insight into total application development versus support metrics.

ITKMD is a Gartner Benchmark Analytics solution that delivers indicative IT metrics in a published format as directional insight for IT organizations. This solution represents a subset of the metrics and prescriptive benchmark analysis capability that is available through Gartner Benchmark Analytics. For ongoing and more targeted analyses, Gartner Benchmark Analytics provides clients with in-depth, personalized benchmarking and customized assessments. These prescriptive, client-focused engagements are structured to identify technology performance strengths, to prioritize opportunities for IT and business optimization, and to assist in communicating IT's role in creating business value through strategy enablement and process improvement.

Related IT Key Metrics Data Research

This research is part of a set of Gartner Benchmark Analytics research pieces.

Depending on your subscription level for Gartner services, some clients have access to the Gartner ITKMD publication series from gartner.com, select "Explore," "Metrics & Tools," and "IT Key Metrics Data."

For detailed information and metrics specific to each of the IT Key Metrics Data: Key Industry Measures, see individual documents outlined in Table 1 above, or review "IT Key Metrics Data 2016: Index of Published Documents and Metrics" for a comprehensive list of all available IT Key Metrics Data 2016 research.

Table 3. ITKMD 2016: Overview Document Index

Document Title	Current Year
Executive Summary	G00291328
Small and Midsize Enterprise Executive Summary	G00291329
Resources to Review Your ITBudget Comparison Report	G00291330
Index of Published Documents and Metrics	G00291331
Demographics	G00291332
Surveys	G00291333
Frequently Asked Questions	G00291334
Glossary of Terms	G00291335
Definition of Industries	G00291336

Source: Gartner IT Key Metrics Data (December 2015)

Appendix: Exploring Gartner's Prescriptive Benchmark Analytics Capabilities

The world’s leading organizations use Gartner Benchmark Analytics to support the execution of Missions-Critical Priorities. Gartner's consulting-based benchmark analytics capabilities deliver unbiased comparisons of IT performance relative to unique client-specific peer organizations and those considered best in class. Benchmarks can help you assess your IT organization's performance to ensure delivery of cost-effective and efficient IT services, identify opportunities for improving performance and effectively communicate value to the business.

Gartner Consulting led benchmarks are individually configured, project-specific benchmarks that help support such IT challenges as growth planning, charging for IT services, budget validation, mergers and acquisitions, end-user satisfaction, application rationalization, or the support of outsourced service contract evaluation. Benchmarking offers a stake in the ground, to determine where an enterprise is today, and a future roadmap, which shows where opportunities lie.

Gartner Benchmarking can help you:

- Plan your IT budget with relevant facts and metrics to justify your IT spending and staffing costs.

- Identify opportunities for cost optimization and investment prioritization.
- Use data to improve dialogue and align with business units and the board.
- Select the right mix of insourcing and outsourcing at fair-market prices and service levels available today.

Gartner Benchmark Analytics Select Case Studies

CIO and IT Executive Benchmarks

CIO and IT executive benchmarks evaluate performance from two perspectives: a cost and maturity assessment of critical IT competencies and IT business value. Learn more at Gartner Consulting's: For Your IT Role.

CIO Benchmarking Case Studies

- CIO Wants to Move IT to a Process-Focused Delivery Model
- CIO Wants to Obtain a Better Understanding of IT Performance
- Organization Establishes a Baseline and Looks to the Future
- Organization Evaluates IT's Ability to Support the Dean's Vision
- CIO Balancing Increased Demand With Flat Resources

IT Budget Benchmarking Case Studies

- Organization Ensures Industry Competitiveness
- Organization Assesses Merger and Acquisition Activity Implications on IT Spend

Consortium Benchmarking Case Studies

- Organizations Share Best Practices

Infrastructure and Operations Benchmarks

Infrastructure and operations benchmarks create a starting point in the process of helping IT organizations identify and assess all IT performance levels. Learn more at Gartner Consulting's Benchmarking: For Your IT Challenges — Infrastructure and Operations.

Infrastructure and Operations Benchmarking Case Studies

- Organization Assesses IT Performance to Ensure Effectiveness and Competitiveness

- Organization Benchmarks IT Costs to Ensure Ongoing Cost-Effectiveness and Consistency With Industry
- Organization Undergoes Cost-Optimization Assessment
- Organization Creates a Foundation for Continual Improvement

Enterprise Computing Benchmarking Case Study

- Organization Benchmarks Data Center Costs to Ensure Cost-Effectiveness

End-User Computing Benchmarking Case Study

- Organization Creates Foundational Components for Increased Transparency of Services to End Users

Applications Benchmarks

Applications benchmarks are the starting point in the process to help IT organizations identify and assess application development and support performance levels. Learn more at Gartner Consulting's Benchmarking: For Your IT Challenges — Applications.

Application Development and Support Benchmarking Case Studies

- Organization Ensures Competitiveness and Quality
- Organization Maintains a Foundation for Continual Improvement
- Organization Manages Stakeholders and Identifies Performance Improvement
- Organization Creates a Foundation for Continual Improvement

SAP Benchmarking Case Study

- Agency Ensures Delivery of Cost-Effective SAP Services

Sourcing and Vendor Relationship Benchmarks

Sourcing and vendor relationship benchmarks provide an accurate answer to the question, "Is this a good market price for the services being provided?" Learn more at Gartner Consulting's Benchmarking: For Your IT Challenges — Sourcing and Vendor Relationships.

Market Assessment Benchmarking Case Studies

- Organization Implements Third-Party Benchmark Clause
- Organization Wants to Execute a Global Consolidation Strategy
- Organization Accelerates Business Growth

IT Service Catalog Benchmarking Case Study

- Organization Assesses IT Service Catalog Rates to Validate Current Competitiveness

Cloud as a Service Benchmarking Case Studies

- Organization Looks to Procure Cloud Email
- Organization Evaluates Backup as a Service
- Organization Requires Third-Party Assessment of Storage as a Service Offering
- Organization Desires Unified Communications as a Service Contract Evaluation

End-User Satisfaction Benchmarks

IT customer satisfaction benchmarks establish a baseline for customer satisfaction and create a roadmap that helps prioritize efforts to increase these levels. Learn more at Gartner Consulting's Benchmarking: For Your IT Challenges — IT Customer Satisfaction.

IT Customer Satisfaction Benchmarking Case Study

- Organization Undergoes an Assessment of End-User Satisfaction
- Agency Assesses End-User Satisfaction

IT Business Effectiveness Benchmarks

IT business effectiveness benchmarks establish a baseline for IT's effectiveness in meeting business needs and identify opportunities to better align the IT organization with the enterprise for maximum results. Learn more at Gartner Consulting's Benchmarking: For Your IT Challenges — IT Business Effectiveness.

Business Effectiveness Benchmarking Case Study

- Agency Undergoes an Assessment of Business Effectiveness

More information on Gartner Benchmark Analytics can be obtained by contacting your account executive, or by email: benchmarkinginfo@gartner.com.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"IT Key Metrics Data 2016: Resources to Review Your ITBudget Comparison Report"

"How to Shift the Focus From IT Cost Cutting to Business Optimization"

"Use Benchmarking to Identify IT Cost Optimization Opportunities"

"The Ongoing Opportunity for IT Cost and Value Optimization, 3Q15 Update"

"Developing a Financial Transparency Roadmap"

"10 Absolute Truths for Measuring the Business Value of IT"

"Four Keys to Effective Service Costing"

"10 Absolute Truths for Costing IT"

"One More Time: This Is How You Express Costs in Business Value Terms"

"The Gartner Cost Value Matrix: Assess If Cost Optimization Initiatives Balance Cost Reduction and Business Value"

Evidence

- This research contains relevant cross-industry averages and ranges from a subset of metrics and prescriptive engagements available through Gartner Benchmark Analytics consulting-based capabilities.
- Employee, income and revenue data is based on the most recently completed fiscal year.
- Calculations were made using worldwide observations.

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