Key Issues for IT Executives 2010: Judicious IT Investments Continue Post-Recession[1]

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Executive Summary

While the recession has officially been declared as ending during the past summer, the prolonged economic conundrum continues to pose new challenges to organizations around the world. The past year has shown some increase in IT investments, yet IT executives continue to proceed cautiously and predict incremental improvements in 2011; there is no anticipated dramatic return to the growth levels that preceded the recession.

However, a significant shift in IT priorities first captured in 2009 continues: IT organizations are working aggressively and closely with their business partners to identify opportunities to reduce costs and improve productivity across the company through IT initiatives. This phenomenon is very different from previous recessions where IT budgets were typically the first to be cut.

Since its inception in 1980, the Society for Information Management (SIM) survey has helped IT leaders around the globe understand important issues and trends. This article presents the major findings based on survey responses from 172 U.S. organizations in mid-2010. The top five management concerns were:

1. *Business productivity and cost reduction*
2. *Business agility and speed to market*
3. *IT and business alignment*
4. *IT reliability and efficiency*
5. *Business process re-engineering*

This is the fifth in a series of MISQE-published reports based on a SIM membership survey facilitated by the lead author. As in previous reports, this article also presents findings on key application and technology developments, and various aspects of the IT organization. In addition, similarities and differences between the U.S. results and those from similar samples of European and Asian/Australian organizations provide a more global perspective.

IMPORTANCE OF IT MANAGEMENT ISSUES

Since 1980, the Society for Information Management (SIM), in a joint effort with different academic leaders, has conducted an annual survey of the key issues facing IT executives in the United States. One of the important strengths of this research is in its ability to identify important trends by comparing survey data based on a similar sample from previous years. The 2010 SIM survey, conducted in the summer of 2010, focused on three important areas:

1. Management concerns
2. Application and technology investments

3. Organizational issues (IT budgets, IT staff salaries, CIO roles, IT organization structure)

Participants were asked to rate the importance of 39 managerial concerns, 52 application and technology opportunities, and 18 organizational issues. (See the Appendix for a description of the survey design.)

This article presents the major insights gained from the 2010 survey in each of these three areas. It includes comparisons of earlier SIM survey results and, where appropriate, to more recent research. The 2010 survey findings are based on responses from IT executives representing 172 SIM organizations. (Table 1 provides a breakdown of the industry respondents.) Similar to our 2009 report, the same survey was also conducted in Europe (90 companies) and Asia/Australia (103 companies), giving the insights a more global perspective.[2] While similarities and differences in importance ratings are reported throughout the article, the focus of this article is on the U.S. results. Nevertheless, it is clear that the recession has impacted IT around the globe.

Table 1: Percentage of U.S. Respondents by Industry	
Industry Classification	**Percentage**
Finance/Insurance	16.9%
Manufacturing	15.1%
Education	9.9%
Marketing/Retail	8.7%
Pharmaceutical/Healthcare	7.6%
Business Services	7.6%
IT Services/Vendor	4.6%
Computer/Network Consulting	4.1%
Non-profit Organizations	4.1%
R&D/VAR/VAD	4.1%
Construction/ Utilities/Engineering	3.5%
Transportation	2.9%
Government	2.3%
Entertainment	2.3%
Real Estate/Legal Services	1.7%
Aerospace	1.7%
Executive Placement/Search	1.7%
Computer-Related Wholesaler	1.2%

2   For the 2009 findings, see the authors' article "Key Issues for IT Executives 2009" published in the March 2010 issue of *MIS Quarterly Executive* (9:1), pp. 49-59.

THE TOP MANAGEMENT CONCERNS

Under normal conditions, management concerns tend to evolve slowly over time and in the SIM surveys since 1980, the top 10 management concerns have remained relatively constant. However, the severe recession sharply changed the priorities in 2009; many of the top concerns of previous years were no longer in the top 10, and new concerns emerged as vital. Nevertheless, four "traditional" top 10 concerns remain on the list: IT and business alignment, Business process reengineering, IT strategic planning, and Security and privacy.

The top 10 management concerns reported by the U.S. respondents for 2010 are shown in Table 2, together with the comparative rankings since 2003. The respondents were asked to identify their top three concerns. The top ten concerns in 2010 are the same as in 2009, with two exceptions: Globalization is now a Top 10 issue, and the issue of the CIO leadership role dropped off the Top 10 list.

Managers ranked business productivity and cost reduction as their top concern by a wide margin. Business agility and speed to market was the 2nd most important concern, up one place from 2009, and in 2010 IT and business alignment was the 3rd most important concern. IT reliability and efficiency was ranked 4th, and Business process re-engineering (automating business processes to reduce manual labor and cost) was 5th. The top five management concerns all relate to obtaining immediate returns from IT by reducing the cost of doing business.

These top 5 concerns were selected much more frequently than the remaining concerns. The good news is that, unlike previous recessions where the IT budget was typically the first place organizations focused on for cost reductions, the primary objective today is to *leverage IT to help reduce business expenses*. IT cost reduction was ranked only 8th; and it was selected much less frequently than the 6th concern (IT strategic planning) and the 7th concern (Revenue-generating IT innovations). The rest of the 2010 top 10 management concerns are: Security and privacy (9th), and Globalization (10th).

1. Business Productivity and Cost Reduction

Business productivity and cost reduction was again the top concern in 2010, with 33 of the 172 U.S. companies ranking it as number one. This was also

Table 2: Top 10 IT Management Concerns by SIM Respondents, 2003-2010*								
IT Management Concerns	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**
Business productivity and cost reduction	1	1	7	4				
Business agility and speed to market	2	3	13	17	7		5	7
IT and business alignment	3	2	1	2	1	1	1	1
IT reliability and efficiency	4	6						
Business process re-engineering	5	4	18	15	11	5	10	10
IT strategic planning	6	7	3	8	4	4	4	2
Revenue-generating IT innovations	6	8						
IT cost reduction	8	5	7	4				
Security and privacy	9	9	8	6	3	2	3	3
Globalization	10	15						
* Cells with blank data indicate that the issue was not asked in that year's survey.								

ranked as the top concern in Europe, but only 13th in the Asia/Australia sample. This concern has been acknowledged in the SIM survey results only since 2007, when it was ranked 4th; in 2008, the concern was ranked only 7th, but in 2009 it topped the list. This result is consistent with a Harvey Nash survey, suggesting that cost saving and increasing operational efficiency of the business are the top objectives for IT departments in 2010.[3] As we reported last year, this response by business to the role of IT is unique to this recession. In past downturns, business executives simply asked IT leaders to cut their budgets. In this recession, which is even worse than previous ones, business executives are rethinking the role of IT in the business, and they are now asking IT leaders to work with the business to cut costs and to improve the productivity of the rest of the business.

2. Business Agility and Speed to Market

Business agility and speed to market moved up in 2010 to number 2; after jumping from 13th to 3rd in 2009. The downturn in the U.S. economy is driving organizations to adopt a *responsive approach*. Speed to market has become essential for business survival in today's economy, and is consistent with the number one concern - Business productivity and cost reduction. This concern was also ranked in the top 10 in the non-U.S. samples: 4th in Europe and 9th in Asia/Australia.

3. IT and Business Alignment

Aligning IT and business (a top concern of IT managers for almost 30 years) moved to 3rd place

this year after being ranked 2nd last year. Of the responding U.S. companies, 18 ranked it as their number one concern. This concern was also ranked 3rd in Europe, and 6th in Asia/Australia.

When considering this long-standing pervasive conundrum, it is not a question of being aligned versus misaligned, but rather leveraging the opportunities for enhancing the relationship among IT and business organizations to attain demonstrable success. As stated in the 2009 report, IT and business alignment continues to be elusive for the following four reasons:

1. Executives tend to look for the one silver bullet that will enhance alignment; in reality, organizations need to address many strategic alignment maturity components (e.g., communications, partnership, IT metrics, governance, human resources, and technology scope).

2. Organizations need to recognize that it is not how IT is aligned with the business; it is how IT and business are aligned with each other.

3. Organizations need to go beyond just focusing on IT infrastructure.

4. IT leaders often debate how to refer to the alignment conundrum, using different "buzz words" (e.g., linked, integrated, converged, harmony, fused, matched, fit, interwoven).

Recent research suggests that while IT business alignment has been improving, and there is a strong correlation between alignment maturity and an

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3 Harvey Nash, "CIO Survey, 2010: New Decade, New Opportunities?" Harvey Nash Plc, 2010.

organization's performance, there are still challenges that need to be addressed.[4]

Survey respondents were again asked this year to identify the priorities they give to alignment-related activities. IT-business communications (e.g., focus on understanding strategy, risks, opportunities, etc.) stood out, with 35% of U.S. respondents indicating its importance.[5] Second was establishing an IT-business partnership (e.g., building a trusting relationship with shared perspectives) with 26% of respondents indicating its importance. It was surprising to see that IT governance and prioritization was selected by only 10% of the respondents, down from 15% in 2009. This is in contrast with the lead author's research on alignment maturity over the past decade, which has found that each of the six aspects of alignment (partnership, communications, governance, measurements, technology, and skills) play an equal role in attaining mature IT-business alignment. We anticipate that as the economy continues to improve, there will be a closer balance.

The survey responses on this question from Asia/Australia were equally distributed across the six components, while the Europe sample gave lower priorities to Skills (6%) and Architecture (10%).

4. IT Reliability and Efficiency

IT reliability and efficiency has risen to the No. 4 concern in 2010; it was 6th in 2009 and 8th in 2008, when it was first introduced to the SIM survey. (For 2010, it was 6th in Europe but only 16th in Asia). IT reliability and efficiency refers to the accuracy, timeliness, and reliability of the data and information delivered by IT. Of course, management decisions are only as good as the reliability of the IT services used to make them, yet few organizations routinely measure their IT reliability and efficiency. It is important to note that this focus is on efficiency, not effectiveness.

5. Business Process Re-engineering

Business process re-engineering was ranked as the 5th most important concern by U.S. respondents (a slight drop from 4th in 2009). It was ranked as number one by 16 organizations. External factors continue to enable and drive changes to business processes, and the focus on IT's ability to reduce business expenses is facilitated by its ability to work cohesively with its business partners to reengineer its processes. IT today is in the business of change. Business process re-engineering was ranked 2nd in Europe, and 7th in Asia/Australia.

6. IT Strategic Planning

IT strategic planning has moved up from No. 7 in 2009 to tie for No. 6 in 2010. (It is tied for 7th in Europe but only tied for 18th in Asia/Australia.) IT strategic planning has been in the top 10 management concerns since 1980, and it was continuously ranked as the top concern in the 1980s. In today's economic downturn, having an IT strategic planning process should be just as important as during periods of economic growth. With the emphasis on delivering improvements to business processes quickly, however, perhaps longer term strategies are not considered as critical. Unlike during previous recessions, many business and IT leaders have been working closer together to identify strategic opportunities for leveraging IT to reduce costs and improve productivity throughout the organization. Some IT organizations are consolidating their infrastructure, using technologies like virtualization (see discussion on top technologies below), while others are working with their vendors to negotiate new contracts. We anticipate that as the economy continues to recover, IT strategic planning will continue to be important, and the focus will be on helping the organization to increase revenues and profits.

6. Revenue-Generating IT Innovations

Revenue-generating IT innovations has moved up to tie for No. 6 in 2010, from 8th in 2009, and from 17th in 2008; it tied for 7th in Europe and tied for 15th in Asia/Australia. This concern was first included in the SIM survey in 2007. During the recession, executives searched for alternative ways of generating revenues, and one way is to generate revenue through IT innovations. However, in a 2010 survey conducted by Harvey Nash, 60% of CIOs are now shifting their innovation focus into growth activities and using innovation projects to enhance the quality of products and services.[6] Additionally, 58% of CIOs are innovating to speed up the delivery to market of their product/service offerings to capitalize on emerging growth trends.

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4   Luftman, J., Ben-Zvi, T., Dwivedi, R., and Rigoni, E.H. "IT Governance: An Alignment Maturity Perspective," *The International Journal on IT/Business Alignment and Governance* (1:2), 2010, pp. 13-25.

5   For a discussion of the importance of CIO communications with other company officers, see the Peter Keen interview by Omar ElSawy: "Engaging in CIO-CxO 'Conversations that Matter'" in the March 2010 issue of *MIS Quarterly Executive* (9:1), pp. 61-64.

6   Harvey Nash, op. cit., 2010.

8. IT Cost Reduction

IT cost reduction moved down from No. 5 in 2009 to No. 8 in 2010 (ranked 5th in Europe and tied for 15th in Asia/Australia). In turbulent times, when the economy experiences a downturn, business executives usually stress that all organizational functions, including IT, greatly reduce their expenses and budgets. When the economy strengthens, those pressures usually ease. While 35% of the U.S. companies cut their IT budgets in 2010 (down from 52% in 2009), 34% increased their budgets (up from 25% in 2009). The budget projections for 2011, while continuing to improve, are still not at pre-recession levels when typically over 50% of organizations increased their budgets: only 38% of U.S. respondents said they would increase their IT budgets and 27% will decrease their already reduced budgets in 2011. Hence, 62% of organizations' 2011 IT budgets will be reduced or remain the same as the smaller 2010 IT budget. The biggest impact of the reduced IT spending during the current economic downturn continues to be on new infrastructure, which was reduced from over 42% of the IT budget in 2008 to 33% of the IT budget in 2009 and 32% in 2010; it is expected to slightly go down to 31% in 2011.

In the non-U.S. samples, 56% of European IT budgets are projected to be the same in 2011 as in 2010, and 29% will be increasing. In Asia/Australia 60% of the budgets are anticipated to increase in 2011, and only 16% will decrease.

9. Security and Privacy

Security and privacy is once again the only technical issue in the 2010 U.S. top 10 management concerns, ranked 9th. This is the same as in 2009, but down from 6th in 2007 and 8th in 2008; it has been in the top 10 since 2003. Yet Security and privacy was only tied for 18th in Asia/Australia and not among the top 20 in Europe.

Organizations maintain valuable information assets such as individuals' taxes, financial assets, medical records, job performance reviews, trade secrets, new product developments, and marketing strategies, all of which need to be protected. Moreover, as activities migrate to the Internet and the cloud, and the social networking trend accelerates, security and privacy concerns are further emphasized as breaches that occur have enormous ramifications on organizations. As a result, more investment and more regulation are needed to ensure that the next wave of migration to the cloud has positive outcomes.[7] Furthermore, the Ponemon Institute reported in its 2010 global survey that among the five largest industrialized nations, data breaches affecting U.S. organizations were the costliest both in terms of cost per compromised record ($204) and the overall price tag per incident ($6.75 million).[8] Security has traditionally been ranked in the top 10 technologies by U.S. respondents. This year it was only ranked as the 8th most important technology, recognizing its importance as a management issue more than a purely technical issue.[9]

10. Globalization

Globalization was ranked 10th among U.S. organizations in 2010 (up from 15th in 2009); it was ranked 1st in Asia/Australia and 15th in Europe. Globalization is the fundamental force changing IT service delivery and business's competitive activities in almost every market and economy today in some way, shape or form. Globalization mandates a change in perspective for all business aspects, from partners, to suppliers, to clients, to supply chains, to technology, and labor. As companies embrace the notion of being global, IT must also become global. This means taking advantage of IT to break down physical limitations, and, at the same time, tapping into a global labor pool that brings new energy and innovation at scale.[10]

Not in Top 10: Traditional IT Human Resource Concerns

The recession has apparently lowered the priority of traditional IT human resource (HR) concerns; albeit it was ranked 9th in Asia/Australia, and ranked only 13th in the U.S. and 16th in Europe. However, given the persistently high ranking of IT HR concerns in pre-recession surveys, this year's survey again asked respondents to rank their priorities for IT HR. "Developing interpersonal skills" (e.g., communicating, collaborating) rated the highest, with 48% of the U.S. respondents indicating its importance (53% by Europe and 18% by Asia/Australia). Second was "Developing business skills in IT," mentioned by 27% of the respondents (38% by Europe and 20% in

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7   Gartner Press Release, "Gartner Outlines the Top 10 Forces to Impact Outsourcing and IT Services Industry," September 8, 2010, http://www.gartner.com/it/page.jsp?id=1433214.
8   "Fifth Annual US Cost of Data Breach Study: Understanding Financial Impact, Customer Turnover, and Preventive Solutions," Ponemon Institute, PGP Corporation, January 2010.
9   For a discussion of managerial issues as part of an information security strategy, see T. Kayworth and D.Whitten, "Effective Information Security Requires a Balance of Social and Technology Factors," *MIS Quarterly Executive* (9:3), September 2010, pp. 163-175.
10   Gartner, op. cit., 2010.

Table 3: Top 15 Application and Technology Developments by SIM Respondents, 2003-2010								
Applications and Technologies	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**
Business intelligence	1	1	2	2	2	3	2	1
Virtualization* [see also Server virtualization]	2							
Enterprise resource planning (ERP) systems	3	3	14	6		5		
Continuity planning/disaster recovery	4	6	3	4				
Cloud Computing	5	17						
Server virtualization	6	2	5					
Collaborative and workflow tools	7	7						
Security	8	26	1	1	3	1	1	
Customer relationship management (CRM) systems	9	13						
Mobile and wireless applications*	9							
Software as a service (SaaS, PaaS)	9	15						
Business process management systems*	12							
Microsoft upgrade	12	12						
Social Networking*	12							
Customer/corporate portals	15	4	5	14	4		5	
*Did not appear in an Application and Development list in a prior SIM survey								

Asia/Australia). Recruiting (12% in U.S. versus 5% in 2009; 20% in Asia/Australia, and 0% in Europe), Retaining (10% in U.S. versus 7% in 2009; 20% in Asia/Australia, 6% in Europe) and "Developing technical skills" (3% in U.S. versus 8% in 2009; 22% in Asia/Australia, 3% in Europe) were far behind the other HR priorities.[11]

THE TOP APPLICATIONS AND TECHNOLOGIES

As in previous SIM surveys, the 2010 survey asked respondents to rank the *importance* of applications and technology developments by selecting their top five from a list of 52 choices. New IT applications and technologies have fueled, and will continue to fuel, the development of new products and services for all organizations. The list of 52 technology/application choices in this survey has evolved from both the lead author's research as well as technologies added by prior year survey participants. Table 3 lists the top 15 application and technology rankings for 2010, along with their ranking since 2003. The top five

applications and technologies have varied greatly over the years, and indeed the recent recession also has caused IT executives to rethink their application and technology priorities. The top five applications and technologies for 2010 are described below*Did not appear in an Application and Development list in a prior SIM survey

1. Business Intelligence

Business intelligence (BI) remained number one after moving to the top of the list in 2009 from 2nd in 2006, 2007 and 2008. (European companies ranked BI as No. 2, and Asia/Australia only 12th.) This technology applies data mining and other techniques to identify valuable trends. This very high ranking, even during the recession, suggests that business executives believe that their organizations are data rich, but insight poor. Increased competition and the recognition of the value of corporate data and information seem to have underlined the need for leveraging BI. IT organizations have been struggling with BI implementation for many years, as it requires data repositories to be integrated and of high quality, which are often not easy to achieve.

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11   For a broader discussion of IT workforce issues, see the articles published in the December 2009 issue of *MIS Quarterly Executive* on the theme: Domestic and Global Sourcing of the IT Workforce.

2. Virtualization

Virtualization is new to the 2010 list of key technologies, although Server virtualization was included on the list for the 2009 survey and was number 2. This technology's high ranking will likely continue in the future because its costs are relatively small, it is relatively quick to deploy, and it is an important source of reducing operating costs while meeting capacity demands. It is interesting to note the lower rankings for other infrastructure improvements, such as Software as a Service (SaaS) at 11th, Grid (43rd), and Utility Computing (52nd). The only exception is Cloud Computing which was ranked 5th in 2010 (see below). Virtualization was ranked 3rd in Asia/Australia, and 7th in Europe.

3. Enterprise Resource Planning (ERP) Systems

Enterprise resource planning (ERP) remained in 3rd place in the list of technology priorities. It was ranked 1st in Europe, and 9th in Asia/Australia. After the end of the 1990s, when ERP systems were a dominant management concern for Fortune 500 firms, it slipped down the top technologies list. More recently, it seems, these enterprise systems have become more important, mainly because ERP reduces costs, an important current management objective, by automating more processes. ERP systems are also an effective vehicle to enable IT to quickly help its business partners reduce costs and improve productivity. In the U.S. today, ERP vendors have been aggressively targeting mid-sized and smaller firms.

4. Continuity Planning and Disaster Recovery

Continuity planning and disaster recovery is No. 4 in the top technologies list for 2010, up from 6th in 2009 (14th in Europe and 18th in Asia/Australia). This area focuses on how an organization can re-establish important business operations after a major incident. It identifies critical business processes, services, and systems, and determines action plans for restoring mission-critical services in the event of an outage. Many IT organizations continue to outsource this activity to help reduce costs. The likely reason for its high ranking during the recession is the inherent risks due to the reduced investment during the recession. This higher U.S. priority is consistent with the differences in rankings seen for Security and Privacy management issues.

5. Cloud Computing

Cloud computing was new to the 2009 list of key technologies when it was ranked No. 17, and in 2010 it jumped to No. 5. (It was ranked 1st in Asia/Australia and 3rd in Europe.) These high global rankings indicate that cloud computing was still not well understood in 2009. According to a worldwide survey by Gartner, Inc., cloud computing services are estimated to be more than 10% of the spending on external IT services.[12] We believe that this trend will continue and cloud computing is likely to remain one of the top technologies in the near future.[13] Although the long-term implications of the Cloud are yet to be understood, this situation could be analogous to the lack of understanding of the long-term impacts of PCs in the late 1980s.

The U.S. survey respondents were asked to state what percentage of their IT budget was dedicated to running existing systems versus building or buying new ones. Two-thirds of IT budgets were allocated to running existing systems in 2010, and only one third was allocated to building or buying new systems. The projection for 2011 is also within that range – 65% will be allocated to running existing systems and 35% to new systems—and this was consistent around the globe. These results establish a current benchmark ratio of 2:1 between running existing systems, and building or purchasing new ones.

IT BUDGETS

The current economic downturn brought major changes to IT budgets: IT budgets had been increasing since 2004 (51% of the respondents reported rising budgets in 2004, 62.5% in 2005, 56.6% in 2006, 61.3% in 2007, and 46% in 2008). In 2009, however, only 25% of the respondents said their IT budgets had increased.

In this year's survey, 34% of the U.S. respondents said their IT budgets had increased and 31% said they had remained flat; in all, 65% of IT budgets went up or remained flat (compared to 78% in Asia/Australia and 63% in Europe). 2011 looks even brighter: 38% of U.S. respondents said their IT budgets would increase in 2011 (compared to only 27% in 2009). This is still

12   Gartner Press Release, "Gartner Survey Shows Cloud-Computing Services Represents 10 Percent of Spending on External IT Services in 2010," September 22, 2010, http://www.gartner.com/it/page.jsp?id=1438813.
13   For discussion of Cloud computing based on research for SIM-APC, see B. Iyer and J. Henderson, "Preparing for the Future: Understanding the Seven Capabilities of Cloud Computing," *MIS Quarterly Executive* (9:2), June 2010, pp. 117-131.

Table 4: 2010 IT Budget Allocation in SIM Companies (Actual)				
IT Budget Area	2010 U.S. Percentage	2009 U.S. Percentage	2010 Europe Percentage	2010 Asia/ Australia Percentage
Internal Staff – Domestic	43%	39%	25%	33%
Hardware, Software, Network	32%	33%	35%	40%
Consulting Services	10%	12%	12%	11%
Outsources Staff – Domestic	7%	8%	20%	5%
Outsources Staff – Offshore	5%	4%	5%	4%
Internal Staff – Offshore	3%	4%	3%	6%

less than the pre-recession years, when typically 50% of U.S. reported budget increases. But when combined with the 35% that indicated their budget would remain flat, 73% of U.S. organizations indicated that their budgets for 2011 would not decline (compared to 85% in Europe and 84% in Asia), which is closer to the pre-recession range.

In August 2010, Gartner predicted that the IT industry will return to a more sustained growth of 3.5% in 2011 as the economic recovery unfolds.[14]

On average, the IT budget in the 2010 SIM survey was 3.8% of corporate revenues, the same as in 2009 (compared to 3.59% of corporate revenues in Europe, and 4.05% in Asia/Australia). The IT budget as a percentage of corporate revenues as reported in previous SIM surveys has been rising slowly since 2005 (3.6% in 2005 and 2006, 3.5% in 2007, and 3.8% in 2008 and 2009).

Compared to previous years, there were few changes in spending patterns in 2010. As Table 4 illustrates, staffing remains the largest component of IT budgets. The IT budget allocation for internal staff slowly decreased between 2005 and 2009, averaging about 39%, but in 2010 it increased to 43%. In total, staffing accounts for about 68% of IT budgets when consulting and outsourced staff are included. Spending on infrastructure--that is, hardware, networking and software--was about the same: down to 32% from 33% in 2009.

The projected IT budgets for 2011, while tending to be larger than 2010, reflect plans for about 69% of IT budgets to again be allocated to personnel resources. However, this masks some significant shifts in the use of offshore resources by U.S. respondents. Offshore

internal staff is expected to rise to 5% in 2011 from 3% in 2010, and offshore outsourced staff is expected to rise to 7% from 5% in 2010; thus boosting the percentage of IT budget spend overseas from 8% in 2010 to 12% in 2011. The use of domestic outsourcing is expected to slightly rise in 2011, with U.S. respondents projected to spend 8% of their IT budgets compared to 7% in 2010. The projected rise in overall outsourcing is related to organizations looking to rein in costs as well as to fill skills gaps. This increase in outsourcing might also be attributable to the anticipated rising costs of internal employee benefits in the U.S., especially healthcare.

While the average IT budget as a percentage of revenue was 3.87 in 2010 (3.59 in Europe), an examination by industry reveals that some sectors, such as business services, entertainment, finance, and education/publishing, have IT budgets of more than 5% of their revenue. On the other hand, sectors that are considered 'low-tech', such as manufacturing, real estate/legal, construction, and executive placement, exhibit IT budgets which are less than 2.5% of their revenue. In Europe the top ranking sectors are manufacturing, IT services, and finance; and lowest are entertainment/sports and marketing.

As illustrated in Table 4, the budget allotments to staffing in this year's non-U.S. samples are somewhat different. In particular, Asia/Australia budgets are allocating more to infrastructure.

Respondents were also asked to indicate the anticipated percentage of their IT budget allocated to education and training. The projection for 2011 is 3.98% (3.78% in Asia/Australia and 3.09% in Europe), an increase from 3.48% in 2010 and 3.19% in 2009. There is an anticipated growth in interpersonal and management education, as well as in business intelligence, virtualization and cloud computing training.

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14 Gartner Press Release, "Gartner Says Worldwide Enterprise IT Spending on Pace to Grow 2.9 Percent in 2010," August 10, 2010, http://www.gartner.com/it/page.jsp?id=1419513.

IT Executives Report to:	Percentage of Respondents					
	2010	**2009**	**2008**	**2007**	**2006**	**2005**
CEO	44%	49%	43%	31.4%	45.2%	42.6%
CFO	31%	25%	28%	29.3%	25.4%	21.8%
COO	11%	15%	14%	22.1%	15.9%	20.8%
Business Unit Executive	4%	10%	3%	7.1%	8.7%	5.9%
Other Corporate Executive	10%	1%	12%	10.1%	4.8%	8.9%

Table 5: CIO or Senior IT Executive Reporting, 2005-2010

IT STAFF SALARIES

Although the IT sector has been resilient during the economic unrest, our survey companies are still being cautious when it comes to IT salaries. The 2010 survey shows 17% of U.S. respondents reported that IT salaries decreased in 2010, compared to 19% in 2009. On the other hand, 42% reported that IT salaries increased in 2010 (largely government and healthcare organizations), up from 34% reporting increases in 2009, but still a sharp decrease from the 78% reporting increases in 2008. When combined with the 41% that said salaries remained flat, a total of 58% of respondents reported that IT salaries did not increase in 2010 (compared to 66% in 2009); in 2008 only 22% reported not increasing salaries. These results are consistent with a Q2 survey conducted by Computerworld reporting that bonuses and benefits have decreased; workloads and work hours have increased; and salaries stayed stagnant (rising just a microscopic 0.7% on average).[15]

Looking forward to 2011, many organizations predict that things will get better: only 9% of the respondents think IT salaries will decrease in 2011 (5% think so in Europe and Asia/Australia) and 61% project that salaries will increase. Combined with the 30% that think salaries will remain flat, 91% said that IT salaries would remain at the same level or increase compared to 2010 (95% predict that in Europe and Asia/Australia), which is similar to the pre-recession range.

Interestingly, even during the recession, IT staff turnover decreased in 2010. This turnover rate in 2010 averaged just 5.50%, compared to over 6.9 in 2009, and over 8 in 2007 and 2008. The decline can largely be attributed to the state of the job market, with employees remaining in their current jobs. Perhaps many of the employed "boomers" are choosing not

to retire during the recession. It will be interesting to track staff turnover rates as the recovery continues and the job market improves. The turnover rate in Asia/Australia sample was 5.74%, and in Europe 5.82%.

CIO TRENDS

CIO Reporting Structure and Role of CIO

The roles of CIOs continued to evolve in 2010. In the current economy, it has become more important than ever for CIOs to be proactive with their business partners in identifying opportunities for leveraging IT to reduce *business costs*, while also identifying opportunities to reduce IT costs. CIOs today need to work with their staff and business partners to evaluate priorities to ensure that IT delivers value.

Table 5 shows the reporting structure for the CIO (or senior IT executive) during the period 2005-2010. The U.S. survey suggests a possible shift, with higher percentages reporting to the CFO: 44% report to the CEO, 31% to the CFO, 11% to the COO, 4% to a business unit executive, and 10% to other corporate executives. In the Europe sample, almost 43% of CIOs report to the CEO, and 29% to the CFO; 73% report to the CEO and 5% to the CFO in Asia/Australia.

Previous research has shown that, on average, organizations in which CIOs report to CEOs have higher alignment maturity (3.42 on a 1 to 5 scale) than those reporting to business executives (3.23), the COO (3.02), or the CFO (2.89).[16]

CIO Tenure

CIO tenure has continued to increase. The 2010 SIM survey found that the average CIO tenure is 5.1 years,

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15 Brandel, M. "Salaries stall, workloads rise, and IT gets squeezed," Computerworld, April 5, 2010, http://www.computerworld.com/s/article/347538/The_Big_Squeeze.

16 Luftman, J. and Kempaiah, R. "An Update on Business-IT Alignment: 'A Line' Has Been Drawn," *MIS Quarterly Executive* (6:3), September 2007, pp. 165-177.

compared with 4.6 years in 2009, 4.3 years in 2008, 4.1 years in 2007 and 3.6 years in 2006. 52% of respondents said that their CIOs held the position for more than three years (compared to 48% in 2009 and 45% in 2008). In the European sample, CIO tenure averages 5.06 years, and in Asia/Australia, it is 5.36 years. Low CIO turnover (longer tenure) makes it easier for CIOs to address any long-term changes to the business or IT organization. They will be able to focus on the long-term quality of IT professionals, IT systems, and alignment with the business. CEOs tend to retain their jobs for 8 years[17]…so IT leaders are catching up.

CIO Time on Activities

CIOs in the U.S. (and Europe) reported spending 75% of their time dealing with non-technical issues (66% in Asia/Australia) such as managing relationships with the business (18%), IT staff (11%), and vendors (6%), strategies (13%), governance (9%), and HR issues (7%). Thus, they spend about one-third of their time on relationship management. Time spent on technical issues includes operations (12%), architecture (7%), and software development (6%). Although these results are similar to the 2009 survey findings, time spent on non-technical issues is down from 80%: given the current economic environment, CIOs are engaged in more tactical and operational areas.

IT ORGANIZATION STRUCTURE

One of the major factors that can affect the performance of the IT organization is the degree to which it is centralized, decentralized, or federalized. In the 2010 SIM survey, 68% of U.S. respondents said that their IT organizations are centralized, compared to 70.4% in 2009, 67.5% in 2008, 77% in 2007, 74% in 2006, and 72.3% in 2005. With a centralized IT structure, all of IT reports to a single IT unit, which can lead to improved economies of scale; the responsibility for all IT services typically resides with the corporate organization. The benefit of having a centralized structure is (or should be) consistency and standardization of IT management practices, and more flexibility in assigning IT staff. 65.6% of European organizations and 45% in Asia/Australia reported centralized IT organizations.

Only 2% of U.S. respondents said that their IT organization is decentralized, a big drop from 9.5% in 2009, 8.8% in 2008, 5% in 2007, 10.3% in 2006

and 9.9% in 2005. In a decentralized structure, each business unit has its own IT organization (including IT infrastructure). There is little or no coordination across business units or with the corporate unit; corporate IT primarily supports the corporate departmental staff and perhaps some enterprise applications. 9.8% of the European companies and 15% of the Asian/Australian companies indicated a decentralized IT structure.

28% of U.S. respondents said that their IT organization is federated/hybrid, which is significantly up from 18.4% in 2009, 22.2% in 2008, 18% in 2007, 15.7% in 2006, and 15.8% in 2005 (23% of the European companies and 25% of the Asia/ Australian companies were federated in 2010). The federated structure can achieve both centralization and decentralization benefits because it ensures corporate-wide synergy is maintained while leveraging the opportunity for business units to manage their own IT initiatives.

In recent research, organizations with a Federated organization structure tend to have a higher alignment maturity assessment (3.31) than those that are centralized (2.86) or decentralized (2.89).[18]

The 2010 SIM survey also asked respondents to indicate whether the CIOs were hired from inside or outside the firm, and from which business function. Looking first at their prior functional position, 92% of U.S. respondents said that the CIOs were hired from IT: 38% of the hires from within the company, 54% (45% in Europe, 35% from Asia/Australia) of the hires from outside the company. The 8% hired from outside of IT were comprised of 3% from general management, 2% from marketing, and 3% were CFOs.

58% of the U.S. and European respondents said that the CIOs were hired from outside the company (40% from Asia/Australia); 4% of the respondents said that they were hired from an organization outside the company and an organization other than IT (13% in Europe and 5% in Asia/Australia). 42% of U.S. and European respondents indicated that the CIOs were hired from within the company (60% in Asia/ Australia).

SUMMARY

The stagnant economy continues to bring exacting times for executives from across the organization and around the globe. IT investments have proven to

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17 Fahlenbrach, R. "Shareholder Rights, Boards, and CEO Compensation," *Review of Finance* (13:1), 2009, pp. 81-113.

18 Luftman, J. and Kempaiah, R., op. cit., 2007.

be resilient, with a steady progression towards pre-recession levels. The prognosis for 2011 is to proceed with judicious increases in overall spending, including infrastructure, hiring/sourcing, and salaries. Although IT budgets are approaching pre-recession levels, we will not likely experience an abrupt turnaround.

The relatively consistent top managerial concerns in pre-recession years have shifted toward those that are tightly related to the unique characteristics of this recession. In previous downturns, business executives simply asked their IT organizations to cut their budgets. Today, however, business executives are rethinking the role of IT, and they are now asking IT leaders to work with the business to reduce company costs and to improve the productivity of the rest of the business.

Only about half of the top 15 application and technology developments in 2010 were also on the top 25 list in previous years; almost all of the top 15 in 2010 are new compared to the SIM surveys conducted prior to 2007.

After experiencing two recessions in the first decade of this millennium, CIOs are expected to prove their leadership role, while they continue to struggle with cost reductions, business agility, and re-engineering. IT and business leaders need to work closely together just as they should during times of growth.

APPENDIX: SIM SURVEY METHODS

The SIM survey has been conducted since 1980. Surveys prior to 2000 focused just on the top management concerns. Since 2003, the survey has been extended to pursue more specific insights regarding the key IT issues of the day. A significant strength of this research is in its ability to identify important trends by comparing survey data from previous years. However, the survey results are based on an opportunistic rather than a randomized sample, and are therefore presented as suggestive of U.S.-based trends.

The 2010 SIM survey was similar to previous ones in methodology and process. The questions were based on previous SIM surveys, with questions modified based on previous results and suggestions from respondents and researchers (academic and industry). Additionally, some questions were updated and new questions were added based on (1) lists from other

similar research, (2) input from SIM Board members, and (3) the lead author's experience.

All SIM members were invited to take the online survey in June 2010. By the third quarter of 2010, 172 SIM member organizations had responded. The data was analyzed, and key findings were presented during the 2010 SIM annual conference (SIMposium) in Atlanta, GA, in late September 2010.

At the time of this report, the authors had also received surveys from 103 participants in Asia/Australia and 90 in Europe from companies similar to SIM respondents. Although the focus of this article is to report on the U.S. 2010 survey results, some descriptive comparisons are provided across the aggregate findings for these three samples.