MIS QUARTERLY EXECUTIVE

KEY ISSUES FOR IT EXECUTIVES 2009: DIFFICULT ECONOMY'S IMPACT ON IT[1]

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Executive Summary

The global financial crisis has brought exacting times for organizations around the world. Faced with sharp decreases in revenue, companies have experienced IT budget and salary reductions, projects and purchases put on hold, and hiring freezes. While many IT organizations have been collaborating with their business partners to leverage IT to help reduce costs and improve productivity across the business, most are anticipating an economic turnaround, albeit not with much optimism, for a better 2010. When this survey was conducted, in June 2009, initial signs of the recession's end had begun to appear, although companies were, and remain, cautious about future initiatives.

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 243 U.S. organizations. The top five management concerns in 2009 were:

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

This is the fourth in a series of MISQE-published reports based on the SIM membership survey facilitated by the lead author. As in previous surveys, this article also presents findings on key application and technology development, and on various aspects of the IT organization. This year, the survey included additional results from European (27) and Chinese (174) organizations, giving the survey a more global perspective. The respective similarities and differences between the U.S. and these other two regions are highlighted throughout this article.

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. The 2009 SIM survey, conducted in June 2009, focused on three important areas:

• Management concerns

• Application and technology investments

• Organizational issues (e.g., IT budgets, IT staff salaries, CIO issues, and IT organization structure).

Participants were asked to rate the importance of 39 managerial concerns, 65 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 2009 survey in each of these three areas. It includes comparisons to earlier SIM survey results and, where appropriate, to more recent research. The 2009 survey findings are based on responses from IT executives representing 243 SIM organizations. (Figure 1 provides a breakdown of the industry respondents.) More current research is cited to demonstrate any similarities or differences that might have occurred since the survey was carried out in June 2009. In addition, this year, the same survey was also conducted in Europe (27 companies) and China (174 companies), giving the survey a more global perspective. Similarities and differences are discussed throughout the article, but it is clear the economic downturn is impacting IT around the globe.

Figure 1: Percentage of Respondents by Industry

Industry Classification	Percentage
Finance/Insurance	23.5%
Manufacturing	13.2%
Education	11.5%
Pharmaceutical/Healthcare	8.2%
Computer/Network Consulting	6.2%
Construction/Utilities/Engineering	5.8%
Marketing/Retail	5.4%
Government	4.9%
IT Services/Vendors	2.4%
Transportation	2.1%
Real Estate/Legal Services	1.6%
Executive Placement/Search	1.2%
Aerospace	0.8%
Other	13.2%

THE TOP MANAGEMENT CONCERNS

The top 10 management concerns for 2009 are shown in Figure 2, together with the comparative rankings since 2003. The respondents were asked to identify their top three concerns.

In the 2008 survey, the top management concern raised by IT executives was IT and business alignment. Alignment has been on the list of management concerns since the first SIM survey and, with the exception of 2007, had been the number one issue since 2003. Furthermore, the top 10 management concerns had remained relatively constant over the years up to 2008. In 2009, however, they shifted dramatically, largely because of the impact of the recession. Managers ranked Business productivity and cost reduction as their top concern by a wide margin. It was ranked only 7th in 2008. IT and business alignment was the 2nd most important concern in 2009, down one place from 2008.

Business agility and speed to market was ranked 3rd, and Business process re-engineering (automating business processes to reduce manual labor and cost) was 4th. Neither of these concerns appeared in last year's top 10. The top four management concerns all relate to obtaining immediate returns from IT by reducing the cost of doing business. The good news is that, unlike previous recessions where IT was typically the first place organizations focused on for cost reductions, the primary objective this time is to leverage IT to help reduce business expenses. IT cost reduction was ranked only 5th.

The rest of the 2009 top 10 management concerns are: IT reliability and efficiency (6th), IT strategic planning (7th), Revenue-generating IT innovations (8th), Security and privacy (9th), and CIO leadership role (10th).

Some of last year's top concerns, such as "Making better use of information" (ranked 5th in 2008) and "Managing change" (ranked 6th), do not appear in this year's top 10. Human resource (HR) concerns fell to No. 17 in 2009. Last year, HR issues ranked much higher: Building business skills in IT was ranked 2nd, Attracting new IT professionals 4th, and Retaining IT professionals 8th. This year they are not in the top 10.

Under normal conditions, management concerns tend to evolve slowly over time. The severe recession has sharply changed the priorities; many of the top concerns of previous years are no longer in the top 10, and new concerns have emerged as vital. However, four "traditional" top 10 concerns remained on the list—Business productivity and cost reduction, IT and business alignment, IT strategic planning, and Security and privacy—although their sequence has changed.

IT Management Concerns	2009	2008	2007	2006	2005	2004	2003
Business Productivity and Cost Reduction	1	7	4				
IT and Business Alignment	2	1	2	1	1	1	1
Business Agility and Speed to Market	3	13	17	7		5	7
Business Process Re-engineering	4	18	15	11	5	10	10
IT Cost Reduction	5	7	4				
IT Reliability and Efficiency	6						
IT Strategic Planning	7	3	8	4	4	4	2
Revenue-Generating IT Innovations	8						
Security and Privacy	9	8	6	3	2	3	3
CIO Leadership Role	10	16	10				

Figure 2: Top 10 IT Management Concerns, 2003-2009[*]

*Cells with blank data indicate that the issue was not asked in the survey.

1. Business Productivity and Cost Reduction

Business productivity and cost reduction was the top concern in 2009, with 52 of the 243 U.S. companies ranking it as number one. This concern has been acknowledged in the SIM survey results only since 2007, when it was ranked 4th; in 2008, when the winds of the recession had already started to blow, it was ranked only 7th. This result is consistent with a Harvey Nash report that suggests improving operational efficiency is the number one objective for IT departments in 2009.[2] The business's reaction 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. IT and Business Alignment

Aligning IT and business (the top concern of IT managers for almost 30 years) dropped to 2nd place in 2009. Thirty-one of the responding U.S. companies ranked it as their number one concern. But IT and business alignment continues to be elusive for the following four reasons:

- 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).

- 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.

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

- 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 and business alignment has been improving, and there is a strong correlation between alignment maturity and an organization's performance, there are still challenges that need to be addressed.[3]

Given the persistent high ranking of alignment, respondents were asked to identify the priorities they give to alignment-related activities. Establishing an IT-business partnership (e.g., building a trust relationship and shared perspectives) clearly stood out, with 30% of U.S. respondents indicating its importance. This is reinforced by how CIOs spend their time: about a third is spent on managing relationships with business and IT staff. Second was IT-business communications' focus on understanding strategy, risks, opportunities, etc., with 25% of respondents indicating its importance. This is at variance with the lead author's research on alignment

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2 *Strategic Insights Survey - A U.S. IT Leadership Perspective,* Harvey Nash, 2009.

3 Luftman, J., Ben-Zvi, T., Dwivedi, R., and Rigoni, E. H. "IT Governance: An Alignment Maturity Perspective," *International Journal on IT/Business Alignment and Governance*, No. 2, forthcoming spring 2010.

maturity, which has found that, historically, roughly equal amounts of time are usually allocated to all aspects of alignment (partnership, communications, governance, measurements, technology, and skills). We anticipate that there will be a closer balance once the recession is over.

We note there is a large gap between the number one and two management concerns, with 52 of the U.S. organizations ranking Business productivity and cost reduction as their top concern and 31 ranking IT and business alignment as number one. There is then a further gap to the third concern—Business agility and speed to market—which 23 organizations ranked as their number one concern.

Respondents from Europe had the same top two concerns as U.S. organizations, but the sequence was reversed. Business agility and speed to market was ranked 5th in Europe. In China, the top concern was Business process re-engineering, and Business productivity and cost reduction was ranked 6th. As in the U.S., IT and business alignment was ranked 2nd in China.

3. Business Agility and Speed to Market

Business agility and speed to market jumped from 13th in 2008 to 3rd in 2009. This concern was introduced into the SIM survey in 2003 and typically has been ranked in the mid-teens. But the downturn in the U.S. economy means that organizations must adopt a responsive approach. Speed to market becomes essential for business survival in today's economy, and is consistent with the number one concern—Business productivity and cost reduction.

4. Business Process Re-engineering

Business process re-engineering was ranked as the 4th most important concern by U.S. respondents and is strongly related to the 3rd concern discussed above. It was ranked as number one by 18 organizations. External changes enable and drive changes to business processes. In essence, IT today is in the business of change. Business process re-engineering was also ranked 4th in Europe but was ranked as the most important management concern in China.

5. IT Cost Reduction

In turbulent times, IT cost reduction becomes a top concern (ranked 5th in the U.S., 7th in Europe, and 11th in China). 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 is strong, typically the majority increase IT budgets, but, in 2009, 52% of U.S. companies cut their budgets. However, 25% increased their IT budgets (down from 46% in 2008), with organizations from the government, healthcare, and (surprisingly) manufacturing sectors tending to be in this category. The budget projections for 2010 suggest that IT cost reduction is likely to continue; only 27% of U.S. respondents said they will increase their budgets. 28% will decrease their already reduced budgets. Hence, 73% of organizations' 2010 IT budgets will be reduced or remain the same as the smaller 2009 budget. The biggest impact of reduced IT spending has been on new infrastructure, which was reduced from over 42% of the IT budget in 2008 to 33% in 2009, and it is expected to go down to 31% in 2010.

6. IT Reliability and Efficiency

IT reliability and efficiency has risen to the No. 6 concern in 2009 (8th in Europe and 4th in China); it was 8th in 2008, when it was first introduced to the SIM survey. IT reliability and efficiency refers to the accuracy, timeliness, and reliability of the data and information delivered by IT. Management decisions are only as good as the reliability of the IT services used to make them. Yet very few organizations routinely measure their IT reliability and efficiency. As the current recession reinforces, critical management decisions demand the use of the most reliable tools.

7. IT Strategic Planning

IT strategic planning has dropped from No. 3 in 2008 to No. 7 in 2009; it is 3rd in both Europe and China. IT strategic planning has been in the top 10 management concerns since 1980. In the 1980s, it was continuously ranked as the top concern. In today's economic downturn, having an IT strategic planning process should be just as important as during periods of economic growth, for an IT organization to succeed. Unlike previous recessions, when IT was the first place that business executives looked to reduce costs, during this recession, 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 adopting strategies to reduce costs by 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 recovers, IT strategic

planning will continue to be important but will focus on helping the organization increase revenues and profits.

8. Revenue-Generating IT Innovations

Revenue-generating IT innovations has leapt to No. 8 in 2009, from 17th last year; it was ranked 9th in Europe and 17th in China. This concern was first included in the SIM survey in 2007. During the current economic downturn, executives must search for alternative ways of generating revenues. One way to generate revenue is through IT innovations.

In a Harvey Nash survey, 90% of CIOs said that their organizations depended on them to improve competitive advantage through IT innovation.[4] But there is a caveat. Successful IT organizations can provide business value, but they also carry various risks, which, during a recession, are frequently not taken. According to Gartner Inc., as the IT profession matures, the pattern for success is being increasingly refined and requires CIOs to communicate both risk and return in business terms.[5]

9. Security and Privacy

Security and privacy is the only technical issue in the 2009 U.S. top 10 management concerns, ranked 9th (down from 6th in 2007 and 8th in 2008); it was ranked 7th in China but only 19th in Europe. It has been in the top 10 since 2003. 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.

A recent study[6] found that 85% of organizations, from private corporations through government agencies, may have been hit by one or more data breaches within the last year. The number of companies experiencing more than five data breaches in one year rose to 22%, up from 13% in the previous year

In addition, security has traditionally been ranked in the top 10 technologies. However, this year it is not even in the top 20.

4 *Strategic Insights Survey - A U.S. IT Leadership Perspective*, Harvey Nash, 2009.
5 "Gartner Says CIOs Must Communicate Risk and Return in Business Terms," Press Release, Oct. 21, 2009, http://www.gartner.com/it/page.jsp?id=1212213.
6 Ponemon, L. "Fourth Annual US Cost of Data Breach Study," Ponemon Institute, 2009.

10. CIO Leadership Role

CIO leadership role, which many consider an HR concern, was the only HR concern in the U.S. top 10 management concerns in 2009; it was ranked 5th in China and 16th in Europe. Other HR concerns, usually at the top of the list, were not considered major concerns this year. For example, Attracting IT professionals and Retaining IT professionals, both in the 2008 top 10, and (apart from 1985 and 1986) consistently in the top 10 since 1980, did not even make the top 20 this time. HR issues overall were ranked 13th in both Europe and China.

The recession has apparently lowered the priority of HR concerns, though we expect them to rise up the management agenda once the recession is over. The current recession has exposed the critical role of executives in leading their companies, and IT is no different—CIOs serve as leaders and role models to their IT staff. This role becomes extremely important in downturns when employees look up to their leadership. Concerns about CIO leadership will probably continue to be important as CIOs with the appropriate leadership skills become more difficult to find.

Given the persistently high ranking of IT HR concerns in previous surveys, this year's survey asked respondents to rank their time priorities for IT HR issues. In first place was "Developing interpersonal skills" (e.g., communicating, collaborating), with 45% of U.S. respondents indicating its importance. Second was "Developing business skills in IT," mentioned by 35% of the respondents. "Developing technical skills" (8%), Retaining (7%) and Recruiting (5%) staff were far behind. However, when asked as part of the question on time priorities allocated to IT and business alignment, the time devoted to skills was in last place, with only 7% of organizations ranking it as a priority.

THE TOP APPLICATIONS AND TECHNOLOGIES

As in previous SIM surveys, the 2009 survey asked respondents to rank the importance of applications and technology developments by selecting their top five from a list of 51. 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 choices in the survey continues to evolve from both the lead author's research as well as technologies added by survey participants. Figure 3 lists the top 15 application and technology rankings for 2009, along with their

Figure 3: Top Application and Technology Development, 2003-2009							
Application and Technology Development	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**
Business Intelligence (BI)	1	2	2	2	3	2	1
Server Virtualization	2	5					
Enterprise Resource Planning (ERP) Systems	3	14	6		5		
Customer/Corporate Portals	4	5	14	4		5	
Enterprise Application Integration/Management (EAI/EAM)	5	12	32				3
Continuity Planning/Disaster Recovery	6	3	4				
Collaborative and Workflow Tools	7						
ITIL/IT Process Management Practices	8	3	4				
Service Oriented Architecture (SOA)	9						
Storage Virtualization	9						
Networks/Communications	11						
Microsoft Upgrades	12						
Customer Relationship Management (CRM) Systems	13						
Web Services	14	11	14	1		4	4
Software as a Service (SaaS)	15						

ranking since 2003. The top six applications and technologies have varied greatly over the years, and indeed the recession caused IT executives to rethink their application and technology priorities. The top six applications and technologies for 2009 are described below.

1. Business Intelligence

Business intelligence (BI) moved to the top of the list in 2009, having been 2nd in 2006, 2007, and 2008, and in the top five since 2003. European companies also ranked BI as No. 1. This technology applies data mining to identify valuable trends. Credit card companies, for example, use BI systems to compare each new charge with previous transactions to identify possible fraud. Other companies use trends to determine possible causes of warranty repair or customers that represent growing business opportunities. Increased competition and the recognition of the value of corporate data and information seem to have underlined the need for leveraging BI. Despite the high ranking of BI, it is often difficult to implement. 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.

2. Server Virtualization

Server virtualization was new to the 2008 list of key technologies, when it was ranked No. 5. In 2009, it was ranked No. 2 in the U.S. and 16th in Europe. Server virtualization involves partitioning larger servers into several smaller virtual servers. Using fewer large servers makes it easier to manage resources, and improve availability, while reducing "server sprawl." This technology's high ranking will likely continue in the future because, as organizations deploy thousands of servers, they are discovering that they are spending excessive amounts on maintaining, powering, and cooling them. Server virtualization enables organizations to run more than one operating system at a time on a single machine. Frequently, servers run at just 15% to 20% of capacity; virtualization can boost server utilization rates to more than 70%. Higher utilization rates translate into fewer servers needed to process the same amount of work. Clearly, this is an important source of reducing costs. Microsoft Corp., for example, announced that some business customers were, on average, saving $170,000 *a year* when they switched to Microsoft virtualization.[7] Server virtualization is ranked high because its costs are relatively small, and it is

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[7] "Businesses save thousands when moving to Microsoft virtualization," Microsoft Press Release, Aug. 27, 2009, http://www.microsoft.com/presspass/press/2009/aug09/08-27VirtSwitchersPR.mspx.

relatively quick to deploy. It is interesting, however, to note the low rankings for other infrastructure improvements, such as software as a service (SaaS) at 15th, cloud computing (17th), and grid computing, tied at 43rd with utility computing.

3. Enterprise Resource Planning (ERP) Systems

Enterprise resource planning (ERP) jumped to 3rd place in the list of technology priorities, up from 14th in 2008. It was ranked 2nd in China and tied for 4th in Europe. Since the end of the 1990s, when ERP systems were a dominant management concern, they have slipped down the top technologies list. In 2009, it seems they are making a comeback, mainly because ERP reduces costs, an important current management objective, by automating more processes. ERP is an effective vehicle to enable IT to quickly help its business partners reduce costs and improve productivity.

4. Customer/Corporate Portals

Cost cutting is also a likely driver behind the 4th technology priority, customer and internal portals, up from 5th in 2008. These Web-based interfaces reduce manual labor by making it easier for internal employees and external business partners to interact with an organization without human intervention. Customer and corporate portals were ranked only 16th in Europe.

5. Enterprise Application Integration/ Management (EAI/EAM)

This technology rose to 5th position from 12th in 2008; it tied for 4th in Europe. Like ERP systems, EAI/EAM systems peaked about a decade ago, and their high ranking in 2009 is probably due to their ability to quickly reduce costs, the main management concern this year, by automating and integrating major processes.

6. Continuity Planning and Disaster Recovery

Continuity planning and disaster recovery is No. 6 in the top technologies list for 2009, down from 3rd in 2008. It was ranked 4th in Europe. This area focuses on how an organization can restore 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. While we are somewhat surprised that Continuity planning and disaster recovery has been ranked so highly during the recession, we think the 2009 ranking is largely due to this year's shift in attention to systems that manage information and major business functions.

Also, it is interesting to note that the top technology focus in 2008, antivirus protection, fell out of the top 10 entirely in both the U.S. and Europe in 2009; organizations in China, however, ranked antivirus protection as No. 1 in the top applications and technologies list.

The top applications and technologies in 2009 also reflect the fact that there were not many big IT strategic initiatives in 2009 due to the recession. The applications and technologies that received funding were designed to quickly reduce costs and improve productivity across the business.

IT BUDGETS

The recession provided no surprises in the survey results for 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, about half the respondents said their IT budgets had declined, and 23% said they had remained flat; in all, 75% of IT budgets went down or remained flat. This means, though, that 25% of U.S. organizations increased spending on IT (compared to 36% in Europe and 39% in China), down from 46% in 2008 and 61% in 2007. 2010 looks a bit brighter, however; 27% of U.S. respondents said their IT budgets would increase in 2010. This is much less than the pre-recession years—when, on average, 53.6% reported budget increases—but combined with the 45% that indicated their budgets would remain flat, 72% of organizations indicated that their budgets for 2010 would not decline, which is close to the pre-recession range.

Furthermore, Gartner Inc. predicts that the IT industry will return to growth in 2010 and that the average global IT spending is expected to increase by 3.3% in 2010.[8] Goldman Sachs predicts a 4% increase.[9]

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[8] "Gartner Says IT Spending to Rebound in 2010 with 3.3 Percent Growth After Worst Year Ever in 2009," Press Release, Oct. 19, 2009, http://www.gartner.com/it/page.jsp?id=1209913.
[9] "Goldman Sachs raises 2010 outlook for IT spending," Sept. 21, 2009, The Associated Press, http://www.ajc.com/business/goldman-sachs-raises-2010-143376.html.

Figure 4: 2009 IT Budget Allocation (Actual)				
IT Budget Area	**2009 Percentage**	**2008 Percentage**	**2009 Europe Percentage**	**2009 China Percentage**
Internal Staff—Domestic	39%	35%	37%	27%
Hardware, Software, Network	33%	43%	38%	38%
Consulting Services	12%	10%	10%	10%
Outsourced Staff—Domestic	8%	5%	10%	11%
Outsourced Staff—Offshore	4%	3%	2%	5%
Internal Staff—Offshore	4%	4%	4%	9%

However, returning to 2008 revenue levels will take longer.

On average, the IT budget in the 2009 SIM survey was 3.83% of corporate revenues, very similar to the 3.82% in 2008. Budgets in Europe were 3.65% of corporate revenues, and those in China were 4.9%. The IT budget as a percentage of corporate revenue as reported in previous SIM surveys has been slowly rising since 2005 (3.6% in 2005 and 2006, 3.5% in 2007, 3.82% in 2008, and 3.83% in 2009). But keep in mind that corporate revenues are down in 2009.

Compared to previous years, there were some significant changes in spending patterns. As Figure 4 illustrates, infrastructure—that is, hardware, networking, and software—fell to 33% of total spending in the U.S., from 43% in 2008 (thus infrastructure accounted for a smaller percentage of a smaller budget in 2009). Staffing remains the largest component of IT budgets. The IT budget allocation for internal staff slowly decreased between 2005 and 2008, averaging about 38%. In 2009, however, it increased to 39%. In total, staffing accounts for about 67% of IT budgets when consulting and outsourced staff are included (but again from a smaller overall budget).

The projected IT budgets for 2010 reflect plans for about 69% of IT budgets to be allocated to personnel resources, up by two percentage points on 2009. However, this masks some big shifts in the use of offshore resources. Offshore internal staff and offshore outsourced staff will both rise to 6% in 2010 from 4% in 2009, thus boosting the percentage of the IT budget spent overseas from 8% in 2009 to 12% in 2010. These projections will bring the percentage of total IT personnel costs accounted for by offshore outsourced staff to approximately 9% (6% of the 69% allocated to all personnel costs). The use of domestic outsourcing is also expected to rise in 2010, with respondents projected to spend 9% of their IT budgets this area, compared to 8% in 2009 and 5% in 2008.

The projected rise in overall outsourcing is related to organizations looking to rein in costs as well as to fill skills gaps. The increase in outsourcing might also be attributable to the anticipated rising costs of employee benefits in the U.S., especially healthcare.

Both the European and the Chinese IT budgets are also illustrated in Figure 4. While European budgets closely match the percentages of U.S. organizations, Chinese budgets differ mainly in what is allocated to internal staff.

Interestingly, even during the recession, IT staff turnover decreased in 2009. The turnover rate in 2009 averaged just 6.9%, compared to over 8% in 2007 and 2008. The decline can largely be attributed to the state of the job market, with employees hanging on to their jobs at all costs. It will be interesting to track staff turnover rate as the recession ends and the job market improves.

IT STAFF SALARIES

The benefits that IT professionals received in the past when they enjoyed signing-on bonuses and other perks are gone for now, although the IT sector is doing better than the rest of the U.S. economy; the same applies in Europe and China. The 2009 survey showed that organizations were pulling in the reins on IT salaries: 19% of respondents reported that IT salaries decreased in 2009, compared to only 4% in 2008. Surprisingly, 34% (largely government and healthcare organizations) reported that IT salaries increased in 2009, sharply down from the 78% reporting increases in 2008. When combined with the 47% that said salaries remained flat, a total of 81% of respondents reported that IT salaries did not decrease in 2009 (compared to just 96% in 2008). These results are consistent with a study by Radford, an AON Consulting company, where 68% of U.S. technology companies

Figure 5: CIO or Senior IT Executive Reporting, 2005-2009					
IT Executives Report to:	**Percentage of Respondents**				
	2009	**2008**	**2007**	**2006**	**2005**
CEO	49%	43%	31.4%	45.2%	42.6%
CFO	25%	28%	29.3%	25.4%	21.8%
COO	15%	14%	22.1%	15.9%	20.8%
Business Unit Executive	10%	3%	7.1%	8.7%	5.9%
Other Corporate Executive	1%	12%	10.1%	4.8%	8.9%

have implemented salary freezes, 30% mandated time off and 17% suspended 401(k) matches.[10]

Looking forward to 2010, many organizations predict that things will get better: only 9% of respondents think IT salaries will decrease in 2010 (8% think so in China), and 45% project that salaries will increase. Combined with the 46% that think salaries will remain flat, 91% said that IT salaries would remain at the same level or increase in 2010 (92% predict that in China), which is similar to the pre-recession range. Europe is much more pessimistic; over 57% of the companies said 2010 salaries would be less than 2009. Further evidence for IT salaries not declining in 2010 comes from International Data Corporation (IDC) and Microsoft Corp., which have recently released the results of a study showing that the IT sector will help drive global economic recovery by creating 5.8 million new jobs and more than 75,000 new businesses over the next four years.[11]

CIO TRENDS

CIO Reporting Structure and Role of CIO

The roles of CIOs continued to evolve in 2009. 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. As in previous economic downturns, the greatest challenge for managers is to do more with less. CIOs need to work

with their staff and business partners to evaluate priorities while ensuring IT delivers value.

Figure 5 shows to whom the CIO or senior IT executive reported during the period 2005-2009. In the 2009 SIM survey, 49% report to the CEO, 25% to the CFO, 15% to the COO, 10% to a business unit executive, and 1% to other corporate executives.

Previous research has shown that, on average, organizations in which CIOs report to CEOs have higher alignment maturity (3.26, on a 1 to 5 scale) than those reporting to business executives (3.20), the COO (2.97), or the CFO (2.79). In the Europe sample, almost 57% of CIOs report to the CEO, and 62% in the China sample.

CIO Tenure

Compared to previous years, CIO tenure has continued to increase. The 2009 SIM survey found that the average CIO tenure is 4.6 years, compared with 4.3 years in 2008, 4.1 years in 2007, and 3.6 years in 2006. 48% of respondents said that their CIOs held the position for more than three years (compared to 45% in 2008). In the European sample, CIO tenure averages at over five years, and in China, it is over six years. High CIO turnover (short tenure) makes it difficult for CIOs to address any long-term changes to the business or IT organization. They will have difficulty in focusing on the long-term quality of IT professionals, IT systems, and alignment.

CIO Time on Activities

Established CIOs spend 75% of their time dealing with non-technical issues (U.S., Europe, and China), such as managing relationships with the business (19%) and IT staff (12%), strategies (15%), governance (10%), and HR issues (8%). Thus they spend about one-quarter of their time on relationship management. Time spent on non-technical issues is down from over 80% last year, when the question was first asked. Given the recession, CIOs are

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10 "Global Recession Hit US Salaries Hardest and Accelerated Equity Program Changes at Technology Companies, Says Aon Consulting's Radford," Press Release, Oct. 13, 2009, http://www.radford.com/home/press_room/pdf/news_midyear_update_101309.pdf.
11 "New study says IT sector to help drive global economic recovery," Microsoft Press Release, Oct. 4, 2009, http://www.microsoft.com/presspass/press/2009/oct09/10-04IDCEconomicImpactPR.mspx.

engaged in more tactical and operational areas. Time spent on technical issues includes operations (11%), architecture (7%), and software development (6%).

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 federated. In the 2009 SIM survey, 70.4% of U.S. respondents said that their IT organizations are centralized, compared to 67.5% in 2008, 77% in 2007, 74% in 2006, and 72.3% in 2005. With a centralized 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. 78% of European organizations and 60% in China reported centralized IT organizations.

9.5% of U.S. respondents said that their IT organization is decentralized, slightly up from 8.8% in 2008 but similar to 2005, when it was 9.9% (The figures in 2006 and 2007 were 10.3% and 5% respectively.) 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 some enterprise applications. None of the European companies indicated a decentralized IT structure.

18.4% of U.S. respondents said that their IT organization is federated, reversing the trend toward federal structures in recent years; 15.8% were federated in 2005, 15.7% in 2006, 18% in 2007, and 22.2% in 2008. (18% of European companies and 13% of the Chinese companies were federated in 2009). 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.

IMPROVING BUSINESS KNOWLEDGE ABOUT IT

Previous research has focused on the skills of IT professionals. It is clear that a balanced set of technical, business, management, industry, and interpersonal skills is fundamental for IT personnel. Effective communication among IT and business professionals is fundamental to successful relationships. Although IT professionals' understanding of the business and the business's understanding of IT both need to be improved to ensure strong IT and business alignment, business understanding of IT is the weaker (Luftman 2009).[12] As a result, this year's survey asked questions designed to help identify how to improve the business's understanding of IT. From a strategy and organizational perspective, understanding business-IT alignment (ranked number one by almost 53% of respondents) stood out clearly, followed by IT strategy, ranked number one by almost 25%. From a governance and compliance perspective, the top issue is the value of IT (28% of respondents), followed by the IT governance process and the role of the CIO (14% each). From a technology/infrastructure perspective, change management was the clear leader, with 58% of organizations ranking it first. From an IT HR perspective, motivation was first (34%), followed by staff retention (27%). These findings can help IT executives to identify the important areas that they need to ensure are conveyed to their business partners. Academics can use this information to modify the one IS course that is typically required by M.B.A. candidates.

SUMMARY

The current recession poses new challenges to IT executives around the globe. The relatively consistent top managerial concerns in previous years are shifting toward concerns 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. In this recession, which is worse than previous ones, business executives are rethinking the role of IT, and they are now asking IT leaders to work with the business to reduce corporate costs and to improve the productivity of the rest of the business. While this recession presents new challenges and opportunities for IT executives in 2009, the prognosis for 2010 is to proceed with conservative caution.

Only about half of the top 15 application and technology developments in 2009 were also on the top 25 list in previous years, probably due to the host of new developments in recent years. Furthermore,

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12   Luftman, J. *Managing the IT Resource*, Lulu & Amazon, 2009.

almost all the top 15 in 2009 are new compared to the SIM surveys conducted prior to 2007.

Organizations are currently facing the worst financial crisis in decades. CIOs are expected to prove their leadership role, while they continue to struggle with cost reductions, business agility, and re-engineering. On the other hand, IT HR issues have dropped off the list in this recession. IT and business leaders need to work closely together in these troubled times, just as they should during times of growth. IT-business alignment is an ongoing concern—some things never change.[13]

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 into the key IT issues of the day.

The 2009 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—in particular, Jeanne Ross, MIT CISR and SIM VP for Academic Affairs, and (3) the lead author's experience.

All SIM members were invited to take the online survey in June 2009. By the third quarter, 243 organizations had responded. The data was analyzed, and key findings were presented during the 2009 SIM annual conference (SIMposium) in Seattle, WA.

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13   For recent articles on alignment issues, see the March 2009 issue of *MIS Quarterly Executive*.