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## IN MEMORIAM

JIM KENNEDY, FOUNDER,  
KENNEDY INFORMATION

It is with heartfelt sadness that we report the death of Jim Kennedy, our company founder, friend, and mentor.

He died on November 3, at his home in New Hampshire.

Over 30 years ago, with great foresight, he built a company that today supports 100 individuals and their families.

We are forever grateful for his diligence, intelligence, and gracious spirit.

From all of us, thank you Mr. Kennedy.

## Transformation Consulting: Web Site Usability

• *Transforming Web sites to improve business performance and ROI*

Web sites serve a variety of business purposes for corporations, ranging from simple communications to the sale and delivery online of products and services. More recently, they are also being used as an interactive corporate platform with customers and prospects. However, up to 70% of Web sites are below par from a usability perspective, according to effbis, a European-based consultancy focusing on Web site and enterprise portal usability and governance.

## KEY POINTS

- ▶ Increasing Web site usability cuts costs and improves business performance
- ▶ High usability requires keeping the design focus on business objectives and how best to achieve them from the site visitor's point of view

The term 'usability' historically has involved testing how people actually use a system and relate to products or services. With Web site usability, it's preferable to think in terms of how a user:

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## Infrastructure Consulting: Geospatial Applications – More Than Maps

• *Consultants have a key role in bringing location to enterprise decisions*

Many organizations have considerable assets of many types distributed throughout broad geographies. Forward-looking companies are improving their ability to meet enterprise missions by evaluating and extending the use of geospatial data, or data with location attributes. Geospatial data, applications, and services help answer the "where" questions of business decisions.

Once used primarily by governments and energy providers, geospatial applications (often called geographic information systems or GIS) include combining, analyzing, and mapping information that has an Earth-based locational component. This is a \$3 billion industry including business and consumer applica-

tions as well as government use, where geospatial technology originated. Business applications include retail site location, mobile resource management, and market analysis. Most enterprise systems, such as business intelligence or databases, handle geospatial data or link to GIS. However, some domain knowledge is necessary to integrate such information and applications into the enterprise workflow. This is where consultants generally come into the picture.

## GIS Technology Providers

Because of the need for domain expertise, a group of small independent consultancies with vertical industry experience offer services to help enterprises embrace geospatial applications.

## KEY POINTS

- ▶ Incorporating location-based information in business decisions is essential for some enterprises to achieve their objectives, however many do not know how to use it
- ▶ Consultants generally play important partners to clients and vendors in projects involving geospatial applications, which can be relatively data-intensive and time-consuming

However, the large consulting firms also are in the game through access to enterprise systems and tight partnership with technology providers. Consultants of all sizes have opportunities to help clients take advantage of geospatial information by teaming with geospatial consulting firms and learning the area themselves.

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**KENNEDY INFORMATION'S**

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Annual subscription: \$895  
ISSN: 1542-958X

**2006 IT Trends**

IT and business alignment, attracting and retaining IT professionals, and IT strategic planning are among the top 10 management concerns keeping C-level and other senior enterprise managers awake at night, according to the latest study by the Society for Information Management (SIM).

IT and business alignment is no surprise, having topped the list for 25 years, notes Professor Jerry Luftman (Stevens Institute of Technology, Hoboken, N.J.) and SIM VP Academic Community Affairs. "In the past everybody was looking for a silver bullet, over the years focusing on partnerships, communications, and more re-

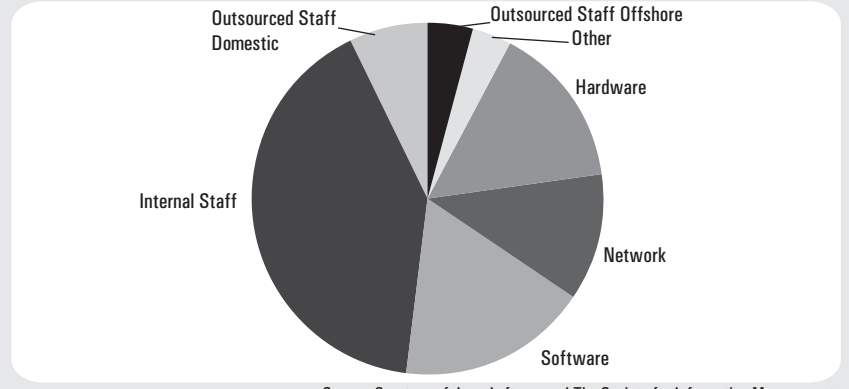
cently on people and skills", he says. "The hot button right now is IT governance. But as the industry matures, we're finding that the silver bullet is all of these things."

"Attracting and retaining IT professionals didn't make the list three years ago. Now there's a steadily growing concern that there's not enough talent to meet demand. With the dot-com bust IT professional careers slowed down and the jobs are going overseas," Luftman adds.

Other top concerns cited are security and privacy, project management capability, introducing rapid business

*(continued on page 8)*

**2006 IT BUDGET ALLOCATION (ACTUAL)**



Source: Courtesy of Jerry Luftman and The Society for Information Management

**F I R M I N D E X**

Accenture	3, 7
Arthur Andersen	12
Arthur Young	7
Bain	8
Bax Global	10
BCG	8
Booz Allen Hamilton	8, IB 2
BT	IB 3
Capgemini	7, IB 2
Dell	9
Deutsche Post WorldNet	10
DHL	10
Diamond Management & Technology Consultants	7, 8
EDS	7
effbis	6
EquaTerra	IB 4
ESRI	3, 4
Fiat	IB 4
Fritz	9
I2	9
IBM	3, 7

iorg	6
Manhattan Associates	10
MapInfo	3, 4
McKinsey	7, 8
Menlo Worldwide	10
Menlo	9
Mercer Mgmt Consultants	7
NCR	12
Neiman Marcus	7
Nielsen Norman Group	6
Open Geospatial Consortium	4
Overnight	9
PA Consulting	IB 4
Reuters	IB 4
Rubicon Technology	7
Society for Information Management	2, 8
SPIRAL Group	12
TPI	IB 1, 3
Unilever	IB 4
UPS	9, 10
Webcredible	6

**The Global IT Consulting  
Marketplace 2006:**

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- IT Strategy and Planning
  - Market Size
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- Opportunities and Challenges for Consultants
- Profiles of 17 IT consulting firms in this market with rankings of the largest firms
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## Infrastructure Consulting: Geospatial Applications – More Than Maps *(continued from page 1)*

### Geospatial Service Ecosystem

There are a relatively small number of technology providers in the GIS arena. Categories of products include not only the GIS software for storage, manipulation, and display but also those providing tools and services for spatial data collection, sensors management, and specialized applications such as routing.

### Geographic Analysis

In the software area, the largest GIS vendor is ESRI, in Redlands, California. ESRI has a wide presence in the natural resources and government arenas and is increasing its presence in utilities and other businesses. Its core solutions provide extensive geographic analysis capabilities. ESRI has a large contingent of implementation partners that help clients get their GIS working in more than 25 industries ranging from health and utilities to government and financial services.

“Consultants play a very valuable role as they provide a broad range of GIS-related services that help make ESRI end users successful with their GIS projects. Consultants also provide industry-specific expertise that is tailored to the needs of the end-user,” said Dave Wieseler, Director, ESRI Partner Programs. “Consultants can support the end user through every step of the process. Starting with an assessment of the needs of the user, to system requirements and architecture, to custom development, installation, integration and training, consultants can provide a complete solution from start to finish.”

### Commercial Location Intelligence

In financial services and retail envi-

ronments, the problems are a bit different from those in governments. MapInfo is one leading vendor providing location intelligence solutions to those sectors. While MapInfo also has consulting partners, one of its flagship products is on the desktop and is therefore straightforward to install and implement. With MapInfo, the emphasis for consultants is on the vertical applications, primarily with its server-based products and its enterprise platform. For example, the company partners with Accenture

*Business applications include retail site location, mobile resource management, market analysis, insurance risk assessment, and financial and other services where geographic analysis is critical.*

and IBM to provide a full-service location intelligence solution for the insurance industry.

“Accenture takes MapInfo applets and plugs them into IBM’s insurance portlets, which in turn integrate with Accenture’s enterprise application implementations,” said Ed Gandorf, MapInfo’s Director, Strategic Intelligence. “Accenture’s role is critical in adding the power of location intelligence in an industry-specific way to decisions made by their insurance clients. By helping insurance companies better manage risk in the decision-making process, they gain tremendous business benefit from technology implementations addressed by this partnership,” he added.

### The Data Issue

After the client decides on who will help it accomplish its geospatial implementation, data is a huge issue. GIS projects are always integration efforts,

combining data from multiple sources to create new information. Sources of geospatial data almost always include government agencies at various levels, local and national. In addition, commercial entities typically sell imagery and street data.

In some cases, new data must be collected. For example, a city might need to collect aerial photographs to update information for tax records or other programs. In addition, cameras (security, traffic, etc.), cell phones, radio frequency identification (RFID) technologies, and sensors of many other types are sometimes data sources. These data sources represent different degrees of accuracy, completeness, frequency, and quality.

### Middleware

The explosion of such incoming data results in a need for proper middleware – process and technologies to sift through the data, possibly apply filtering reflecting business rules, and ensure that data moves correctly into the target system.

Therefore, combining spatial data requires proper planning and care to ensure optimal results. Consultants often get involved in the data efforts because the work can be one-time or infrequent projects to collect and update the geospatial data.

More problematic is the enterprise’s spatial data. An example is customer information with mailing addresses. Often such data resides in multiple data stores across several departments. Before using this data in a GIS, it must be run through quality checks that can be significant, albeit important, efforts.

*(continued on page 4)*

## Infrastructure Consulting: Geospatial Applications – More Than Maps *(continued from page 3)*

### Standards

Related to both data sharing and system integration is proper use of standards. Standards are indispensable for effective data sharing, efficient processes, and clear taxonomies. As with other data types, standards compliance makes it easier to transfer data between applications.

Independent standard consortia such as the Open Geospatial Consortium (OGC) are driving geospatial standards efforts. For example, there is a Geography Markup Language (GML) specification that uses XML encoding to move and store geographic information.

### Web Mapping

Web mapping is a big focus area for standards because of the increase of geographic information sharing over the Internet. For example, OpenGIS Web Feature Service/ISO 19142 (WFS) version 1.1 allows a client to retrieve and update geospatial data encoded in GML from multiple Web Feature Services.

OCG's OpenGIS Web Map Service (WMS) allows an application to accept, overlay, and project views of geospatial data from many different sources. WMS allows data portrayal and combination in a map display on a computer screen without exposing the details or attributes of the data, which may be subject to privacy, business intelligence, or security protections.

Consultants involved in GIS projects should be sure their teams and clients understand and adhere to industry standards. Such adherence enables foreseen and, perhaps more important, unforeseen sharing of

geographic data and systems.

### Enabling Technology: GPS

In addition to the data challenges, enterprises must deal with supporting technologies for geospatial applications. For example, most people have heard of GPS (Global Positioning System) because of their phones or automobiles. GPS is a network of satellites originally developed by the US military for its navigation needs.

A number of years ago the system was opened to the public for other uses. On the ground, a GPS device detects the signals from the satellites

*Consultants play important roles in GIS projects. They coordinate data collection and integration efforts that typically involve multiple internal departments as well as outside public and private entities, and they help enterprises meld GIS within IT frameworks and enterprise architectures.*

and uses triangulation or other methods to determine the device's location (or position) on the Earth (latitude/longitude coordinates). GPS devices have chips that provide the needed communication and calculation capabilities, along with some sort of display. As such, GPS is a subset of geospatial systems.

Mobile phones have GPS chips originally embedded to help find people in emergencies, but now are used for location-based services (LBS) such as finding a nearby restaurant or ATM. GPS devices are also used by consumers when hiking and driving.

Business use includes asset management and mobile resource management – such as fleet management or

delivery of goods or services along routes.

### Consultant Roles

In summary, consultants play important roles in GIS projects. They coordinate data collection and integration efforts that typically involve multiple internal departments as well as outside public and private entities. In addition, consultants help enterprises meld GIS within IT frameworks and enterprise architectures.

Furthermore, consultants help incorporate appropriate uses of devices, such as GPS devices. "While ESRI supports end users in many industry areas," said ESRI's Wieseler, "some of our consulting partners have specialized expertise in industry areas that goes beyond that of ESRI's. Consultants may also be able to provide a strong local presence for those end users that desire such support."

### Customization

Consultants are of great importance when implementing the systems, in terms of both data movement as well as application customization. "The power of location goes well beyond the map displays, to the business analysis possible using the location dimension. And that is relevant to almost any enterprise data," said MapInfo's Gandorf. "Once the core location data is there, it is available essentially on demand, to add value to business decisions," he added.

Consultants without GIS expertise would do well to seek out and partner with those that do, while simultaneously planning to establish in-house expertise for this growing need among all sorts of organizations. ☒

## Transformation Consulting: Web Site Usability *(continued from page 1)*

- Gets on a Web page
- Anticipates how to interact with it, and
- Actually interacts with a Web site.

Technology changes and Internet usage are rapidly increasing, and users' expectations concerning Web transactions are higher. They are put off by sites that are difficult to use or navigate, from their point of view.

Companies with poor or cumbersome Web sites often have site governance problems and inadequately developed and enforced corporate Web standards as well.

So Web site transformation is not merely a content or technology enhancement to better meet user expectations, but a means of improving site business performance. By targeting site governance and enterprise-wide site standards, Web site transformation is also a more cost-effective means of maintaining and continuously improving business processes.

Today, most enterprises see public-facing Web sites as essential for business, whatever their objectives may be. Many have also developed internal Web sites – intranets, extranets, and various forms of enterprise portals supporting internal business processes and information exchanges across organizational divisions and with essential business partners. Efficiency for the user should be paramount in all cases. In this context, and with the current focus on cost-cutting and ROI in most businesses, improving internal and public-facing site usability presents an opportunity to increase corporate productivity and improve customer service.

### Better Usability Reduces Costs

When a company's prospects, clients, partners, and suppliers spend time on its Web site to find information, products, or services, they are choosing the lowest-cost option. Effbis estimates that answering a phone call costs about \$15 per call, where an equivalent transaction through the Web costs less than \$5.

Customers have direct interaction with Web sites in ways they do not with broadcast and print media. According to research by B.J. Fogg of Stanford University, people develop the same emotional reactions to interactive technologies that they do in their interactions with people. Ultimately, if visitors can't find what they need or expect on a site, it encourages them to go directly to competitor sites or to call or otherwise make contact, adding to handling expenses. Having had a bad experience with the brand, they are likely to be more difficult to convert as prospects, resulting in additional costs.

Traditionally, marketing managers perform demographic studies to match their products with target audience needs. There are various approaches to determine Web site design, such as persona design, normative usability, etc. Marketing managers often prefer the persona approach, which consists of defining the most important user profiles and corresponding user scenarios. Five to 10 distinct user profiles (so-called "personas") are prescribed. For each of these personas, the marketing team outlines a specific Web scenario. From a marketing standpoint, it is logical to use demographic study findings, profiles, and scenarios to drive Web design, navigation, and features.

However, effective Web design includes more than transposing offline prospects and customer profiles to online media. Specific online characteristics need to be addressed, including adding the following common online profiles:

1. Varying levels of user (visitor) knowledge about the company, ranging from "doesn't know company" to "knows company and/or its brand(s)"
2. Varying levels of user knowledge about the company's products and services, ranging from "doesn't know" to "knows various products and services"
3. Varying levels of user knowledge about the company's Web site, ranging from first-time visitor to returning or regular visitor
4. Varying levels of user Web experience, ranging from novice to expert.

Online profiles all have their specific needs and add to the complexity of effective Web design, since all must be addressed under the same site umbrella. These user profiles are new to many marketers and often require specific Web usability experience not generally found in-house in most companies.

It is also useful to think of Web usability as a "pay now or pay later" proposition. If you don't account for (or at least consider) all online user profiles early in the development process, you run the risk of having to go back and rethink the whole approach, rehire Web developers, and get them refocused on the project so they can redevelop the site. (See "Professional Web site Usability, Part 1: Pay Now or Pay Later," Lauren Kirby, 5 May 2000 at [www.sitepoint.com/article/Web-site-usability](http://www.sitepoint.com/article/Web-site-usability).)

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## Transformation Consulting: Web Site Usability *(continued from page 5)*

### Characteristics of High-Usability Sites

Web sites that are most efficient from a user point of view:

- Have consistent navigation throughout
- Address all the needs of potential online users
- Allow multiple paths to most destination pages

Usability is not just a marketing and commercial issue. Today, even governments are paying attention, presumably to improve the public service aspects of their sites. For example, for the US government/FEMA, the major lessons learned in Web site usability are listed below. These simple rules should apply to all external or internal Web sites:

- Use a simple homepage to give visitors the “scent” of the information they are seeking.
- Organize and clearly label content based on topics, audience types, and location.
- Develop consistent templates that pages will follow.
- Create logical groups of links to help users determine how navigation areas differ from each other.
- Update out-of-date and/or inaccurate content.
- Consolidate and organize content so that all information about a specific topic can be easily found or scanned in one place.
- Ensure that important links appear above the fold (visible part on a portable PC screen without having to scroll down).
- Write content specifically for the Web; what works in print doesn't always work online.

### Best Practices Review

Gaining the consensus and commitment needed to implement change is often the most challenging piece of the puzzle. Stakeholders typically have varying objectives and view the Web site through their individual perspectives, rather than assuming the critical point of view of their site visitors.

One way to create a productive review environment is to conduct a workshop on Web site design best practice to explore proven and successful design options to build a common base for internal discussions. The workshop should focus on reviewing best practices through real-life examples from sites that have successfully implemented key features such as effective home page design, navigation, product discovery, company profiles, implementation of an online recruitment process, user transactions, etc.

### Productivity Safeguard

Web design best practices serve primarily as an aide to decision making and to eliminate non-productive ideas (for example, using animation or providing information only on the home page (not good ideas) instead of links to information elsewhere in the Web site). Rejecting a specific best practice in a particular company context is not critical as long as the Web team understands the associated risks and knowingly accepts and documents them.

External best-practice facilitators can be useful for building consensus. Companies that provide such services include iorg and the Nielsen Norman Group based in North America, and Webcredible and effbis in Europe, among others.

Numerous Web sites on this subject

also exist, including iorg.com, useit.com, webcredible.co.uk, effinfo.com, Web sitetips.com, and netmechanic.com.

To achieve agreement on Web site designs:

1. Conduct a formal process that includes all the stakeholders and helps them identify, agree on, and document business objectives for the site as the first step in the design process.
2. Have the stakeholders identify, agree on, and document the home page, and global navigation categories and links before aesthetic design discussions commence.
3. Keep the focus on business objectives, and the discussions centered on how best to meet them in the Web medium, based upon objective research and how differing assumptions can be tested to eventually come up with the optimal solution.

### Final Thoughts

Although user expectations are changing with the increased use and pervasiveness of the Internet, the fundamentals underlying Web site usability are stable:

- Use technology in the most user-efficient way to locate information or conduct transactions in support of your business objectives. Don't use technology for technology's sake just because it is new or slick.
- Understand how to use the latest technology and where it has maximum impact on the user (for example, use Flash/animation to make assembly processes more understandable, such as putting together an above-ground pool or reconfiguring a utility vehicle).

Of course, the competition constantly will be improving or tweaking its sites. Web site usability is a moving target that bears ongoing attention. ☒

## Co-Founder Chris Moffitt On Rejoining Diamond Consulting

### • *Returning co-founder Chris Moffitt sees renewed opportunity for an independent consultancy*

Chris Moffitt, a co-founder of Diamond Management & Technology Consultants, recently returned as a senior partner in the firm's Enterprise practice. Moffitt is a consulting and industry veteran who has held positions at EDS, Arthur Young, and Neiman Marcus. In 1999 he left Diamond and founded Rubicon Technology, a high-technology materials sciences manufacturer of solid-state light-emitting-diode (LED) technology. He rejoined Diamond this August.

"I co-founded Diamond with Mel Bergstein, our chairman, in 1994, and we grew it quickly. We went public within three years and by 2000 we had 1,000 people. "The '90s was a great time to be in IT services," Moffitt notes.

#### Creating a Unique Offering

Moffitt describes Diamond's positioning: "We operate at the intersection of business and technology, doing transformation consulting. I explain to people that we're McKinsey with deep tech experience. We have always been objective and unbiased, with no hardware/software affiliations."

"Our hallmark is fielding small teams of highly skilled, multi-disciplinary senior advisors on very big projects. Often we work in a program management role on top of projects staffed by systems integrators. This model was rare when we started and rarer now. Generally, when you buy consultant skills from the big guys, you buy carloads of products and 50+ people teams."

"We come in at the strategy planning phase or sometimes take a hand-

off from a strategy firm to help a client implement and actually create value from those plans," he continues. "Lately, clients are pushing back at one-stop shops, which is increasing our opportunities. Clients have referred to what we provide as 'delivery assurance.' Generally, we save them millions of dollars."

Diamond oversees the business strategy, and develops business processes and IT system design for Fortune 500 companies in the financial services, insurance, healthcare, CPG, retail, telecom, high tech, manufacturing, logistics and the public sector arenas. "That's how we grew the business

*This [independent] model was rare when we started and rarer now. Generally, when you buy consultant skills from the big guys, you buy carloads of products and 50+ people teams.*

through the '90s to 2001," says Moffitt. "We stuck to our knitting and didn't overextend during the dot-com boom. In 2000 we changed our name to DiamondCluster when we acquired Cluster in Europe, and then changed back to Diamond when we recently spun off Cluster to strengthen our focus."

This past July Diamond agreed to sell its consulting operations in Europe, South America, and the Middle East to Mercer Management Consulting, while keeping practices in North America, the UK, and India.

The sale, according to CEO Adam Gutstein, was prompted by the firm's decision to re-scale what had become a

#### KEY POINTS

- ▶ Clients look to independent consultancies as "delivery assurance"
- ▶ Small, highly skilled teams work with clients to develop and implement growth strategies and improve operations by capitalizing on technology

too extensive global footprint and focus on "the most attractive markets in terms of growth, profitability, and career development opportunities." (Adam Gutstein's view of the sale was reported in September 2006 *Management Consultant International*, also published by Kennedy Information.)

Moffitt is a self-described serial entrepreneur and left Diamond in 1999 to start Rubicon Technology. He says, "We built a facility to fabricate sapphire substrates. Sapphire substrate are to LEDs as silicon is to IC chips. We grew the business at a rate of 60% to 70% annually. But VCs were becoming too interested in the business, and I was ready to move on. Last year I decided that I wanted to get back into consulting."

#### Not a One-Stop Shop

In August he returned to Diamond in a different role – new business development and client management. "We excel at having small highly skilled teams in contrast to the trend toward bigger and bigger staffing pyramids – attempting to be a one-stop shop. When you sell solutions, you can be very biased about what the client's solutions should look like. Take the recent buzz around SOA. To me it's a euphemism for one-stop shopping. In other words, IBM, Accenture, Capgemini are saying 'you should buy everything from me.'"

*(continued on page 8)*

## Co-Founder Chris Moffitt On Rejoining Diamond Consulting *(continued from page 7)*

“There’s been so much consolidation that clients only have 10 or so choices from whom to buy everything, only you can’t mix and match solutions, and the solution won’t exactly match your problem,” opines Moffitt. “McKinsey, Bain, BCG, and Booz are very strong firms that in some respects are trying to emulate our model by adding technology skills. But the difference is we’ve always operated at the middle of business and technology. Our people have always been comfortable in that position to help clients make transformations.

Moffitt characterizes the qualifications of Diamond’s advisors as chief among the firm’s differentiators: “They possess a very deep level of experience in strategy and technology skills. We

15 years’ experience.”

“Other key differentiators are our objectivity, and our delivery capability,” he adds. “We’re extremely referencable for high-risk, complex projects.”

*Take the recent buzz around SOA. To me it’s a euphemism for one-stop shopping. In other words, IBM, Accenture, Capgemini are saying ‘you should buy everything from me.’*

recruit at the top 20 B-schools in the country, and hire industry-experienced architects to fill out deeper technology skill slots. Our advisors average 10 to

As to his serial-startup habit, Chris Moffitt is ready to stay put for the foreseeable future. “I’ve done three startups, and Diamond is a great match for where I am right now and where Diamond is. It’s a brave new world:

We have a great new CEO, Adam Gutstein, and Diamond has transformed itself into a new young, robust, energetic business.” ☒

## 2006 IT Trends *(continued from page 2)*

solutions, speed and agility, true return on individual IT investments, measuring the value of IT investments, and IT governance.

Offshoring services are projected to take a mere 3.3% of 2007 IT budgets, and two-thirds of the organizations surveyed are not dedicating any funds to offshore outsourcing.

### Top Apps

The top six applications are Web services, business intelligence, security technologies, business process management, and systems integration.

Security Technologies have moved down a notch in importance this year, and BPO is a new addition to the list, Luftman observes. “We’re falling back into the trap of thinking that BPO is a technology and not business generated.”

### HR Issues

“It’s good that HR is becoming a big issue. It’s a positive message – IT budgets are going up. Nearly two-thirds of

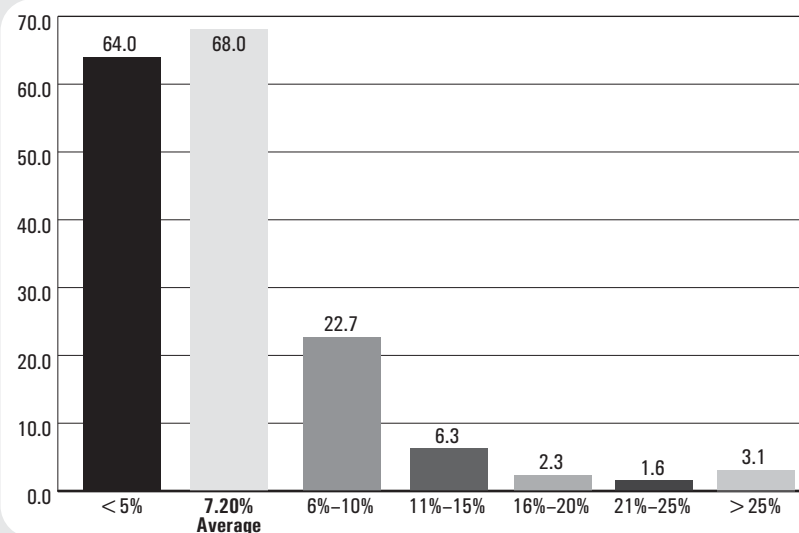
respondents will maintain or increase their level of IT staffing in 2007. IT turnover is averaging 7.2%. Anything under 10 is fantastic. Even though the job market is opening up so significantly, people are staying in place.”

### Survey respondents

140 CIOs and IT executive mem-

bers participated in the 2006 Society for Information Management study. The association, established in 1968, includes 3,000 IT executives, academicians, and consultants who meet regularly to share information and insight for the benefit of its members and their organizations. ☒

IT STAFF TURNOVER RATE 2006



Source: Courtesy of Jerry Luftman and The Society of Information Management

## Supply Chain Strategy Planning: UPS Consulting Services

### • UPS has successfully transformed itself into a formidable competitor in the IT services arena

Due to observe its 100th birthday in 2007, UPS has much to celebrate. It began in 1907 as a Seattle delivery and messaging service. Now the \$42.6 billion company is the global leader in package delivery and transportation, and high among the world's leading supply chain systems and service providers. Less well known is the firm's sizable stake in the IT services marketplace, offering strategic direction and guidance to companies, organizations, and governments on calibrating supply chain processes and operations with their business strategies.

It is something of a business axiom that the company with the best supply chain is the market leader – true of Dell before it stumbled over service, supplier, and inventory problems; true of Wal-Mart; and certainly true of UPS. UPS has taken its supply chain excellence further, however, in parlaying its internal expertise into an extremely profitable array of customer-facing services. Among them is its global consulting services division, with 250 dedicated analysts.

“In the last 10 years while we were moving from pure small-package delivery to a supply chain company, we developed our consulting ability in tandem,” notes Raj Penkar, vice president of global solutions for UPS Supply Chain Solutions (which includes the consulting services group).

A UPS veteran, Penkar earlier led UPS Professional Services, which provides management consulting services and also strategic technology planning and management. He was instrumental in developing data acquisition technologies including the original data-in-

tensive UPS code – enabling the high-speed sortation that underlies speedy, high-volume distribution. Penkar was also involved in developing the familiar Diad signature-capture device carried by UPS delivery personnel.

### Building Supply Chain Services

UPS began offering supply chain services in the mid-1990s and quickly expanded, Penkar explains, primarily through acquisitions of such companies as Fritz, Menlo, and Overnight, beefing up the transportation backbone. “UPS also started offering consulting services, initially hiring ana-

*All our customers have global supply chains now. You can't address a supply chain customer unless you have the global ability to execute. We're more active in China than India, because China has the larger manufacturing base.*

lysts from the Big Five. We went to market as an independent agency within UPS, regardless of follow-on revenues as our supply chain services group developed and grew. In 2004 we integrated the consulting group with the supply chain services group, and expanded our other capabilities as well, establishing a global footprint.”

Penkar notes that although UPS hired analysts from the outside before integrating with the supply chain side, they found the company had considerable internal consulting talent within UPS Supply Chain Services. “We had people within that organization with deep industry, engineering, and technology expertise and also experience in consulting. This whole supply chain group is dedicated to customer-facing solutions delivery. And they've typical-

#### KEY POINTS

- ▶ As a supply chain company, UPS has amassed an array of IT consulting expertise and IT service offerings aligned with its global delivery network
- ▶ The same knowledge and engineering ability responsible for UPS's supply chain are available to customers

ly gone on to get MBAs.”

“Currently we have some 250 plus people – teams in Europe, Asia, Latin America, and the US,” explains Penkar. “All our customers have global supply chains now. You can't address a supply chain customer unless you have the global ability to execute. We're more active in China than India, because China has the larger manufacturing base.”

### Consulting Contract Trajectory

UPS customers are looking to reduce cost and at the same time increase customer service by reducing time in transit and high inventory levels, or dealing with compliance tracking – addressing all the many ways the supply chain adversely impacts business, according to Penkar.

“We first engage with clients in an opportunity assessment, analyzing pain points early in the solutions process,” he explains. “The conversations on the front end are very collaborative, which is the way we prefer it. Really, an RFQ boxes you in. It's not very creative. We proceed from there to design and pricing before returning with a proposal.

“We have a range of tools we've developed to determine total landed cost, as well as off-the-shelf tools such as I2's Strategist tool, LogicNet, and

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## Supply Chain Strategy Planning: UPS Consulting Services *(continued from page 9)*

Manhattan Associates' WMS, which was customized for our own use originally," says Penkar. "Whatever we design, we execute. We also do the integration with the customer's enterprise systems, using EDI, XML, Web services. Almost all of our business transactions are loosely coupled."

### Fees

Customers may send out RFQs after UPS' initial consult. If they choose to do business with another solutions provider, UPS charges a straight consulting service fee. "We prefer to actually execute, so we're willing to trade consulting dollars for downstream revenue," explains Penkar. "If they accept our proposal, we absorb consulting costs in the revenue stream. Although outsourcing is traditionally seen as a pay-as-you-go model based on transactions, we use a variety of billing methods, including a fixed/variable model, one that depends on such things as investment required and other things."

"Typical advisory periods are three to six months long," he adds. "Freight contracts, for example, are very quick, but implementing outsourcing arrangements [takes] longer – it takes three to six months for substantial change."

Only three to six months for a transformative change like outsourcing seems short as well. But among an array of outsourcing service offerings, UPS will contract as a third-party logistics provider for the entire offshore piece, managing suppliers, offshore production schedules, freight, transport, and delivery of product, direct to the customer's customer, if desired.

### Process Monitoring

Post implementation is also an important phase for UPS, and the company continues a presence in the solution, quantifying the total cost impact of the client's supply chain strategic change (dollar amount, and impact on inventory levels, fill rates, and customer service levels). "We provide figures predictively and perform quarterly reviews when systems are up and running," notes Penkar.

*Only three to six months for a transformative change like outsourcing seems short. But UPS will contract as a third-party logistics provider for the entire offshore piece, managing suppliers, offshore production schedules, freight, transport, and delivery of product, direct if desired.*

### IT Services

UPS also provides IT services. Some are offered on a pay-as-you-go model, including:

- International compliance consulting on continually updated government compliance and trade regulations
- Tariff consulting and appropriate business-process design adaptable to changing regulations and tariffs, and
- Trade consulting, involving bilateral and multilateral trade agreements and processes.

Related products include a suite of trade management software such as UPS TradeSense, offering applications in trade areas such as import, export, customs brokerage, and data management.

However, in some cases the technology is integral to the service. For

instance, the company's UPS Trade Direct offering allows customers to bypass distribution centers and ships directly to retail stores or to the end customer. UPS consolidates all shipments delivered by international freight, air, ocean, and ground transportation. It provides customs clearance, deconsolidates into individual shipments, and delivers direct to multiple addresses within the destination country. The IT visibility tools are key to its success.

### Competitive Environment

Among UPS' competitors in the marketplace are some of its peers: package delivery and transportation companies such as Bax Global, DHL, and Menlo Worldwide. But few, with the possible exception of Deutsche Post WorldNet-owned Bax Global, have as broad a scope in terms of number of products or size of the transportation infrastructure, or IT network.

On the IT services side, outsource advisory firms as well as the big multi-services providers are performing similar supply chain IT services, but UPS does offer some significant differentiators. The company has gained such name recognition over the last 20 years that its operational excellence across its multi-transport global delivery network is common knowledge.

Key differentiators are its breadth of global network infrastructure as well as its depth of expertise. The same engineering ability and accumulated knowledge that created the UPS supply chain are available to its customers as well. ☒

## Commentary: Looking at Active Business Intelligence

### • *Latency often causes maintenance backlogs and misalignment with business goals*

By William Juch

From an IT perspective, the present state of Business Intelligence (BI) systems has not changed fundamentally since the introduction of data warehousing and business analysis systems.

The basic model has been to extract data from operational systems, perhaps after the close of business, load these into a data warehouse, analyze the data with statistical or rule-based models, and present them to business analysts and decision makers.

Periodically, new data is inserted into the analysis system and new insights may or may not be gleaned.

Experts evaluate the models to determine when the data, or other considerations such as a change in or refinement of corporate goals, require the models or rules to be changed.

#### Causes of Maintenance Backlog

This paradigm places a heavy burden on the IT department to constantly be in step with corporate goals and quickly update systems. This may increase maintenance backlog. All of this activity has a latency that may or may not be significant. Clearly, such a system cannot react to immediate events.

Because of the need for timelier, actionable information, operational data stores the extracted data directly from the operation systems. These smaller-scale databases are structured with SQL and/or stored procedures to answer a certain set of questions. Maintenance is still an issue because as business conditions change, these systems require extensive updating, testing, and reinstallation, no matter what tools or shortcuts are used.

Perhaps the biggest problem is that these systems, as they multiply throughout the various operational systems, require an increasingly heavy maintenance burden and thus become misaligned – in both time and analytic direction – with business needs. This leads to anomalous results that can be difficult to pinpoint and correct.

Another technique used is to install a seemingly easy-to-use query interface, as is available from all BI vendors, or Key Performance Indicator (KPI) report system into either the data warehouse, the operational data store, or directly into the operational system through an ERP data transfer interface.

Often decision makers and business analysts are given free rein to access these systems. In the best of cases, user interfaces provided by BI vendors encompass a bounded set of rules and data based on key independent and dependent variables that are very effective within limits.

Although these systems all have their compelling benefits, such as ease of use, they are at best point solutions. However, this is an opportunity, not a problem.

Nevertheless, IT people often wish to roll out these solutions throughout the enterprise. In the instance of the advanced query interfaces, they usually work very well as installed. But the query universe of these solutions is limited by scope of data, as is the set of questions that can be answered.

What happens if the session maker wants to make a query outside of the box? The entire multi-level application has to be changed. This entails 1) running a statistical or heuristic analysis of a larger data warehouse to understand the proper time series data set and extra new rules, 2) reprogramming the underlying

queries, and 3) installing them on the advanced query system. Also, the stored procedures that interface with or are contained in the operational data store or data store proprietary to the query system has to be changed and reinstalled.

For the IT department, this takes constant maintenance, installation, and testing on many levels.

The problem with both the operational data store and the operational system direct interfaces is that these two have a limited universe of significant data. If new goals come to light, the universe of data within the store must change or expand, and the rules that analyze the data must be at least reexamined and tested.

Often these data stores or the ERP systems have proprietary interfaces that demand special skills and techniques available only from scarce and expensive resources.

Many of the packages mentioned have become easier to use, update, and test. As point solutions, where the rules of the organization or its scope of interest do not change, they are “set and forget” systems. If other uses are required, problems can occur.

Fundamentally, the problem with all these systems is one of endemic and unhelpful latency exacerbated by IT maintenance backlog.

The Holy Grail of business intelligence is an active system that had minimal latency between the insights of the decision support system and their effect on both management reporting and the operational system with minimal human maintenance.

*(continued on page 12)*

## Commentary: Looking at Active Business Intelligence *(continued from page 11)*

On the highest plane, the major components of an active BI solution are entities described as time, rules, events, humans, enterprise interests, systems, and actions.

Electronics and circuit design that use error correction are an instructive model – that of the feedback loop, – that is instituted around the entire system as well as locally.

Mathematically, this system is one of a set of nested recursions. Of course, these loops must connect and recognize each other and react to significant new data and events in soft real time.

Thus, by design, one can eliminate or minimize the problem of latency for system intelligence. If the system runs by default, reacting to events in 50 milliseconds (software real time definition) or less, one can easily “turn down the throttle” and create slower components if necessary.

Another design requirement for an active intelligence solution is the abil-

ity to easily integrate existing product, data warehousing, Web, call center, accounting and other systems with the entities required to affect this feedback loop.

### Lack of Scalability

Many commercial solutions, such as central rules engines and AI approach, were wrung out in medium-sized (10 terabyte database, 10k+ transaction, 100 simulated users) test beds, including call center, analyst, operational, accounting, and Web users, among others.

Frankly, all these central process control and AI systems were rejected because they could not scale and actually introduced anomalous latency into the system.

The last design requirement was that these systems, although extremely responsible, were easy to maintain. One best practice is to give the business users the ability to change system rules at will by using a “language” designed specifically for each user group.

Thus, the marketers at company X would use a slightly different interface than those at company Y due to difference in events, time constraints, data, rules, and actions.

The same is true for the comptroller and the HR person at the same enterprise. The changes made by the business people would be batched up and tested, modified if necessary, and then installed according to a promulgated schedule by the IT specialist. In some cases, this set expectations minimized special and chaotic requests, and reduced the number of maintenance staff assigned by up to 500% .

Finally, the ROI of these systems can be staggering. Many of them have paid for themselves in a matter of months, not years. Also, the ability of the enterprises to retain/create best customers or avoid costly regulatory issues is seen by some organizations as being worth any price.

The basic insight is that in order to have a system that can detect, analyze and react to significant events in soft real time – the Holy Grail – the consultant has to take an alternative approach of envisioning the system as having global and local feedback.

This is closer to the ideal of a self-correcting system, or one that can actually learn. And if implemented properly, it dramatically reduces the burden on the IT staff. ☒

*William Juch is an advisor who has led the creation and implementation of business intelligence solutions at several firms, including Arthur Andersen, NCR, and SPIRAL Group.*

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