

# Professional Services Automation

## A New Approach to Business and Knowledge Management for Professional Services Firms

### Table of Contents

Executive Summary .....	1
The Professional Services Firm.....	5
Success Factors for Professional Services Firms .....	7
Current Practices and Existing Business Systems in Professional Services Firms.....	9
Key Components of Professional Services Automation.....	12
Key Features of Professional Services Automation.....	18
Comparing and Contrasting Professional Services Automation with ERP, CRM, Project Management and Project Collaboration Systems.....	19
Professional Services Automation in Action using Deltek Vision® .....	21
Return on Investment from Professional Services Automation .....	26
Deltek's Conclusions.....	28

### EXECUTIVE SUMMARY

#### The Professional Services Firm

The Professional Services Firm operates through projects, i.e., through discrete engagements for external or internal clients, delivered according to an agreed-upon scope, schedule, fee, and set of deliverables. Some specific examples of project-based organizations include IT services businesses, architectural and engineering firms, design and planning firms, management consulting firms, systems integrators, accounting firms, research organizations, and government contractors.

In the supply chain of a services organization, people and time are the most important resources when delivering on a project or engagement is paramount. Professional services firms must manage information and work to achieve success, in spite of project complications.

The term "Professional Services Automation" (PSA) has been coined by industry analysts to describe the functions and activities that professional services firms must engage in to be successful. As the leading provider of PSA solutions to project-based businesses, Deltek views PSA as a comprehensive, universal,

transparent, collaborative and knowledge-enhancing approach to managing information and work in professional services firms.

#### Success Factors for Professional Services Firms

There are certain time-honored success factors that can make or break a professional services firm. Short-term success comes with bringing projects in the door, having the resources and capacity to execute them, keeping tight reins on projects, and knowing how to evaluate and manage underlying drivers of financial performance. In the long term, successful project-based firms concentrate on external factors (relationships, reputation, and a market-sector focus) and on internal factors (communication, staffing, and knowledge management).

In addition, professional services firms are currently faced with powerful changes in their industries. These changes include a robust market environment and its associated pains, hopes and fears surrounding the impact of the Internet and ecommerce, historic shortages of key professionals, industry consolidation and spin-offs from mergers and acquisitions, and increasingly sophisticated clients.

At the same time, the issue of technology has risen to the boardroom. Top executives are increasingly aware of technology as a basic requirement for doing business, as well as a market differentiator and competitive advantage, and they worry about the costs of falling behind the curve.

### **Current Practices and Existing Business Systems in Professional Services Firms**

Automation of professional services firms has progressed steadily over the last 30 years, beginning with production and accounting systems, then expanding into project management, marketing, and, more recently, communication and collaboration. Yet, for all their progress, firms have stopped curiously short of fully automating and integrating their key business processes. This section reviews the current state of affairs in most professional services firms and identifies important issues to be addressed.

Many project-based businesses have implemented an industry-standard solution for accounting, timekeeping and, in some cases, project management. Yet the picture that emerges is of many “islands” of automation, but no integrated enterprise-wide automation.

Even an organization that has adopted all industry best practices — and few have gotten this far — would still have significant holes in the system. These holes include an enterprise-wide client relationship management system, a robust project resource planning tool, automation in the identification of project resources, and a collaboration solution for client interaction. Also, many of the solutions that firms implement are available only in a single location, for a single or limited group of users. Their greatest weaknesses are the lack of integration and a coherent interface to shared knowledge. This results in redundant data entry of information and in inconsistent or inaccurate data. This fosters inefficiency and drives up costs while reducing effectiveness. It places the burden of integrating information for different

sources on the professional. The organization also fails to capitalize on opportunities, learn from mistakes, or make effective reuse of ideas and information.

### **Key Components of Professional Services Automation**

In contrast to these prevailing practices in project-based businesses, Deltek promotes an enterprise-wide system that ties together all business functions. It is a system that uses an intranet and the Internet to provide people inside and outside the organization with a single, manageable window into all relevant data surrounding projects, clients, employees, sub-consultants, opportunities, recruits and any other key business entities.

This section outlines the specific components that Deltek supports, including data management and business process automation that cover each of the following processes:

- Opportunity and lead tracking
- Proposal automation
- Resource planning and forecasting
- Recruiting and partnering
- Client relationship management
- Project planning, budgeting and management
- Employee time and expense entry and processing
- Project and financial accounting
- Billing and receivables
- Human resource management
- Document and knowledge management
- Business intelligence and practice management
- Project websites (e-business)

After examining each of these areas in detail, it becomes clear that PSA needs to be comprehensive in its automation of the professional services firm, touching on every aspect of a firm’s operations. At the same time, PSA must be universally adopted in the organization in order to succeed, since so many of its capabilities depend on providing a

It enables ideas, best practices, and intelligence to spread more quickly up, down, and across the organization...



Deltek expects firms to find tangible or intangible returns in four critical areas for a professional services firm...

complete and correct view of all business activity. To be widely adopted, it must be transparent—that is, it must overlay easily into each business process, without creating a bulk of additional work for users, even enabling them to do their jobs more efficiently. The user interface to a PSA solution must be user friendly and designed to support and encourage collaboration. Finally, it should be knowledge-enhancing — meaning that the system enables ideas, best practices, and intelligence to spread more quickly up, down, and across the organization and to be preserved for a longer time.

### Comparing and Contrasting Professional Services Automation with Enterprise Resource Planning, Client Relationship Management, Project Management and Collaboration Systems

As comprehensive a solution as Professional Services Automation is, many will wonder how it relates to other types of enterprise and project-based systems, including Enterprise Resource Planning (ERP), Client Relationship Management (CRM), project management tools, and project collaboration/project Websites. In this section, we explore how PSA fits into this landscape.

We conclude that it encompasses some features of an ERP solution; but is more appropriately scaled to the typical professional services firm, while extending an ERP-like functionality into the hands of a broader community in a more useful context. And while it includes CRM capabilities, it's far more powerful for project-based businesses than stand-alone CRM applications because of its integration with project management and accounting functions. PSA encompasses the budgeting and scheduling tools currently used today for project management (i.e., Microsoft® Project) and includes an integration of these tools into the

PSA solution. Finally, PSA provides much of the same collaborative possibilities as today's project websites, but in a way that more efficiently integrates the internal work processes and management systems with those of its partners.

While all offer benefits to the professional services firm, all fall short of realizing the benefits promised by PSA. It is best to think of PSA as offering the best aspects of each type of application, combining all of them in an integrated way that makes the whole more effective.

### Professional Services Automation in Action

Perhaps the only way to grasp the full impact of PSA is to dramatize it with lifelike examples. This section describes PSA from the perspectives of the various participants in a project. It uses a fictionalized case of Crescent Architects designing a laboratory for Gold Pharmaceuticals to illustrate the benefits of PSA to each player in a project situation. "PSA" refers both to the concept of Professional Services Automation and, in this fictitious example, the integrated system that fulfills that concept.

In this fictional story, the events in the project and specific benefits from PSA are considered from nine different perspectives:

- Marketing and sales
- Business unit manager
- Recruiting and human resource manager
- Project manager
- Finance and accounting personnel
- IT staff
- Client
- Partner or subcontractor
- CEO, managing partner, or principal

## Return on Investment from Professional Services Automation

Deltek expects firms to find tangible and intangible returns in four critical areas — increased productivity, higher quality of work performed, preservation and transfer of knowledge within the organization, and stronger relationships with clients. These returns help firms to achieve two key goals of PSA — increased profitability and reduced costs. This section explores the advantages in each of these areas. Some of the specific areas of return include:

- Faster delivery of project-sensitive information to all team members and reduced project turnaround times.
- Improved project resource planning and fine tuning of the marketing and recruitment pipelines.
- Better application of time and materials to the right tasks and the ability to make adjustments, due to faster and more accurate delivery of project cost and budget information.
- Less time wasted on low probability sales efforts and a more efficient marketing effort.
- Reduction or elimination of redundant work efforts due to a single instance of data items like client records, project files, employee profiles, and so on.
- Reduction of costly errors and omissions.
- Reduced billing cycles leading to an increase in cashflow.
- Reduction of expenditures on recruitment fees due to better communication among hiring managers and access to a database of potential candidates.
- Reduction in the time spent looking for information an employee needs to do the job at hand and resulting increase in available billable hours.
- Better retention of client relationships and information even as individual client managers come and go.

- More far-reaching and cost-effective direct marketing and client awareness programs due to an improved client contact database.

## Implementation Strategies for Professional Services Automation

Lessons learned from implementing other enterprise-wide applications will be helpful for the forward thinking firms that make the investment in PSA. This section outlines some important guidelines for implementing PSA, as well as possible pitfalls to avoid. In brief, Deltek's recommendations are:

- Take advantage of the "first-mover" advantage for early adopters.
- Avoid waiting too long to get started or trying to solve every business problem simultaneously.
- Build the proper infrastructure, including strong Internet access.
- Don't underestimate the importance of integration with existing financial, communication, and project management tools.
- Make sure your firm commits to the cultural change that may be necessary for success.
- Don't move ahead without top management support.

## Deltek's Conclusions

Today's challenging business climate highlights the absolute necessity of implementing a PSA solution. Those firms that invested in PSA in the late 1990s are the same firms that are positioned for growth, even in the current economic climate. Firms that embrace the efficiencies and streamlined business processes that result from PSA are the ones with a significant competitive advantage against their competitors. The forward thinking leaders among these companies will understand that a better time may never come to make a significant investment in PSA. And the firms that succeed will be those that enjoy strong support from the CEO, and can bring all factions of their management to the table to make a commitment to this common goal of integrating business and knowledge management.

## THE PROFESSIONAL SERVICES FIRM

### Introduction

Professional services firms have unique operations and needs. This section describes some of the characteristics of professional services firms and introduces the fundamentals of an integrated approach for managing information and work.

### Definition of a Professional Services Firm

A professional services firm operates through projects, i.e., through discrete engagements for external or internal clients, delivered according to an agreed-upon scope, schedule, fee, and set of deliverables. Their projects, contracts and engagements often follow a familiar course from one job to the next, with standard phases and tasks. However, there is usually a fairly high degree of variation in the delivery of the project, due to individualized client requirements and changing circumstances. Their projects are usually performed by transient teams assembled from people inside and outside the organization specifically to complete the project, with the support of relatively static corporate overhead functions.

Some specific examples of professional services firms include:

- IT services, IT consulting, internal IT departments and systems integrators
- Architecture, engineering, environmental and planning firms
- Management consulting firms
- Research organizations (some not-for-profit)
- Accounting and law firms
- Public relations and advertising agencies
- Contractors to federal, state and local

In most cases, people are the most important resources in the supply chain of a project. A primary challenge of a professional services firm is to create business processes and a knowledge base that are more than the sum of individual, isolated projects. Employees, known as

“knowledge workers,” create and reuse knowledge and information for each project. Their efforts, and the firm’s efforts to institutionalize knowledge management, are countered by the complicated nature of projects — temporary project teams, geographically — dispersed offices, multiple concurrent assignments and/or unique and multidisciplinary projects.

### Professional Services Firms Manage Information

The primary asset of a project-based business is knowledge and information. Employees are knowledge workers who access, use, and contribute to the firm’s knowledge and information repositories. Management has traditionally tried to collect and distribute useful information, in the most efficient and cost effective way, to people who need it. In the past decade, automation of this process has resulted in “information overload.” As the Internet age continues to unfold, firms are faced with ever-increasing amounts of information and ever-changing means of communication. Filtering and prioritizing information — and slashing the time it takes to access information — are now critical additional components of information management.

### Professional Services Firms Manage Work

Projects are the life-blood of professional services firms. To have all of the wheels running smoothly requires bringing in projects, staffing them, executing them, and managing them. In these organizations, people and their time make up the supply chain of a project. Resource planning involves getting the right people to the right place at the right time, in the most cost-effective way. In professional services firms, manpower allocation and the hiring pipeline are analogous to manufacturing concepts like supply chain management, just-in-time inventory control of parts and materials, and so on.

People and time are often the most important resources in the supply chain of a project.



## Project Complications

The very nature of projects complicates the straightforward management of information and work. Some common attributes of projects are:

- **Transient project teams.** Teams form and disband for specific projects or project phases, making staffing and the preservation of knowledge a constant challenge. In addition, team members may come and go during the course of the project, making it difficult to maintain continuity.
  - **Geographically-dispersed organizations.** Scattered offices and staff make it difficult for firms to maintain a shared knowledge base, track clients that are also geographically dispersed, coordinate marketing efforts, and perform accounting functions.
  - **Multidisciplinary services.** No two projects are the same, and firms often bring together a diverse project team that provides multidisciplinary services to clients. The most successful firms use standards, libraries, and other forms of accumulated experience to avoid starting from scratch on each project, and focus their creativity and innovation efforts on value-adding activities.
  - **Multiple project assignments.** Managers and staff are often assigned to multiple projects at once. Project managers must keep track of multiple budgets, schedules, and staff workloads, as well as meet each client's unique priorities and expectations. Unit managers must maintain a proper balance of projects and staff resources, since either one can constrain the other.
- First, it's comprehensive — all key business functions and data are incorporated, including clients, projects, employees, consultants, leads/opportunities, documents, activities, and integrated project and financial accounting.
  - Second, it's universal —the system is available to, and used by, every member of an organization (as well as potentially by clients and business partners).
  - Third, it's transparent — the system doesn't create additional work for individual users, but rather lets users share and mutually benefit from everyone's work.
  - Fourth, it's collaborative — it provides a shared workspace where everyone, even in a far-flung and complex enterprise, can stay "on the same page."
  - Finally, it's knowledge-enhancing — ideas, best practices, and intelligence spread more quickly up, down, and across an organization and are preserved for a longer time, so the organization can more effectively leverage its years of collective knowledge.

### Five Pillars of Professional Services Automation

1. Comprehensive
2. Universal
3. Transparent
4. Collaborative
5. Knowledge-Enhancing

## Definition of Professional Services Automation (PSA)

Deltek uses the term "Professional Services Automation" (PSA) to describe a comprehensive, universal, transparent, collaborative, and knowledge-enhancing approach to managing information and work in a professional services firm. We consider each of these characteristics to be like a pillar supporting the goals of PSA; all the pillars must hold for the system to stand. Let's look at each of these "five pillars" of PSA.

## SUCCESS FACTORS FOR PROFESSIONAL SERVICES FIRMS

### Introduction

There are certain time-honored success factors that industry insiders would agree can make or break any professional services firm. Short-term success comes with bringing projects in the door, having the capacity to execute them, keeping tight reins on projects, and knowing how to evaluate and manage underlying drivers of financial performance. And in the long term, successful firms concentrate on external factors (relationships, reputation, and a market-sector focus) and on internal factors (communication, staffing, and knowledge management).

### Short-Term, Operational Success Factors

- Maintaining workflow and backlog helps firms avoid the spikes of work overload or unbillable employees by scheduling their future hiring and project activities.
- Staffing and recruiting to meet project demands are critical for firms to execute projects and grow.
- Project controls (e.g., work plan, scheduling tools, financial reports) enable the project or account manager to manage the project more carefully to meet the expected schedule, budget, and quality of deliverables.
- Key financial drivers (e.g., staff utilization, multipliers, revenue factor, cash flow and overhead costs) are tracked, managed and benchmarked for the whole organization, as well as for individual units, projects and staff.

### Long-Term, Strategic Success Factors

- Client satisfaction is achieved through meeting or exceeding client expectations for budgets, schedules, and quality of deliverables, as well as through service and understanding of client needs.
- Personal relationship-based marketing and sales still account for much of an organization's business development. Organizations are often hired largely on the basis of personal relationships with clients, particularly in the private sector.

- Brand differentiation helps successful businesses position themselves consistently and become known as the low-risk expert in their market sector.
- Market-based organization structures enable project-based firms to understand and respond to their clients' sector-specific needs.
- Retaining key employees lowers the costs associated with recruiting and training new employees.
- Retaining knowledge and institutionalizing best practices is a significant differentiator of the most successful firms, which capture new ways of working and make them an integral part of the organization's operations.

### Current Dynamics in Professional Services Industries

Most professional services industries are undergoing rapid change in today's economy and fast-paced project environment. Following are some of the current internal and external dynamics:

- **Stagnant market environment challenging firms to reduce costs.** Due to the current economic climate, firms are challenged more than ever to keep tight control on costs, maintain/increase revenues and show profits in order to stay competitive. Many professional services firms, from management consulting organizations to architectural and engineering firms are struggling to attain and maintain clients while their revenues are declining. Forward thinking firms that adopt PSA are realizing a significant advantage over their competitors. Through PSA, they are using this opportunity to focus on their business structure, relationships with clients, and processes of winning, producing and delivering work.
- **Hope and fear surrounding the impact of the internet and e-commerce.** Just as professional services firms were early adopters of the fax machine for sharing drawings and correspondence, so they enjoyed many benefits from the arrival of public networks, e-mail, and the web. Now, however, with the advent of project portals, public collaboration zones, and rudimentary e-commerce, the Internet has begun to change the very fabric of many professional services industries. Organizations watch the changing landscape with high hopes for improved productivity and opportunity, mingled with fears for how the traditional relationships in their projects may change and perhaps marginalize their own role.

- **Chronic understaffing, shortage of key professionals, and turnover.** Staffing and recruiting can be both a short- and long-term limitation on an organization's ability to execute projects and grow. Effective, organized recruiting is critical if a firm is to maintain or increase its capacity to take on work. Retaining the knowledge accumulated by key personnel and using it to train new employees are of the utmost importance in a high-turnover environment.
- **Overloaded management and staff.** Support functions often crumble under the weight of increased workload, especially in a down economy where people are having to do more with less. When these groups struggle — e.g., failing to create and distribute timely and informative reports or letting marketing efforts slide — a "ripple effect" occurs throughout the organization. Projects suffer, client relationships are damaged, cash flow problems arise, and so on.
- **Reduction or elimination of administrative (secretarial) support staff.** In an effort to drive down overhead costs, many organizations have greatly reduced their levels of administrative support. Senior and billable staff are taking more responsibility for their own word processing and communication tools. Easy-to-learn automated processes and self-service opportunities for all employees, particularly in accounting and HR, reduce the workload and increase support staff productivity.
- **Industry consolidation and spin-offs.** At the same time, through mergers, acquisitions, and divestitures, many professional services industries are becoming more segregated between large, consolidated organizations and small, niche firms. Organizations that merge with or acquire another organization wrestle with how to integrate technical and business processes, as well as how to pool all employees' collective knowledge.
- **Increasingly sophisticated and/or demanding clients.** Accurate or not, many clients believe that IT advances increase their opportunity for low-effort awareness of, and participation in, their projects. Clients of professional services firms generally perceive superior communication and responsiveness as a critical quality in their consultants. Some clients demand project Websites. Overall, clients have reduced their tolerance for inefficiency.
- **Sole-sourcing and/or reduction in the number of suppliers.** Clients are also developing closer relationships with fewer consultants. It is increasingly difficult for firms to survive simply by responding to public requests for proposal. Instead, intimate client relationships and aggressive positioning are how project-based businesses get on their clients' most-favored-consultants list.
- **The race to keep pace in technology with competitors.** The issue of technology has entered the boardroom. Top executives are increasingly aware of technology as a basic requirement for doing business, as well as a market differentiator and competitive advantage. They worry about the costs of falling behind the curve.

## CURRENT PRACTICES AND EXISTING BUSINESS SYSTEMS IN PROFESSIONAL SERVICES FIRMS

### Introduction

Automation within professional services firms has progressed steadily over the last 30 years, beginning with production and accounting systems, then expanding into project management, marketing, and communication and collaboration. Yet, for all their progress, professional services industries have stopped curiously short of fully automating and integrating their key business processes.

Most professional services firms today, even the most technologically advanced, still have a mish-mash of components, still lack several key pieces of automation, and they rarely achieve any of the synergies provided by integrating their business functions or tying them into their partners via the Internet.

### Design and Production Systems

Rightfully so, certain types of professional services firms put a large degree of their technology efforts into design and production systems. These include computer-aided drafting and design (CADD), engineering analysis, drawing production, visualization systems for A/E firms, and software development tools for technology firms. Even law and accounting firms have joined the technology revolution with systems designed for case research and automating audits and tax returns. Since these are the processes that directly generate revenue for the project-based business, early efforts at automation began here in the 1970s and 1980s. After some early missteps, these efforts ultimately yielded significant productivity improvements.

Other professional services industries use production systems specific to the nature of their work, such as ad agencies with multimedia live JAD sessions, and legal firms with online, collaborative contract changes. Although firms continue to mine these core production processes for productivity gains, many realize

diminishing returns due to the non-repetitive nature of a project-based business and the complexity of the tools themselves. Generally these systems are not well integrated with other functions in the firm. Often, they are even managed by someone other than the manager of the overall IT program.

*Key challenges include: improving file management, storage, training and standardization.*

### Ad-Hoc Document Management

Like all businesses, professional services firms are increasingly overwhelmed by a flood of word processing files, spreadsheets, e-mails, faxes, images, web pages and other documents. Even more importantly, most firms work with design documents, technical specifications and research documents everyday. Many of these items are important for project management or legal reasons, yet are lost in the loosely structured network file system, on backup tapes, in mailboxes, or are nowhere to be found. For such document-intensive industries, few firms have made much progress on an appropriate document management system.

*Key challenges include: unified enterprise directories, document cataloging and indexing, check-in/checkout control, version control, full-text search and archiving.*

### Project Accounting, Billing, and General Ledger Accounting Systems

The complexity of tracking time, materials, profit and loss on many different projects under many different contract arrangements led professional services firms to embrace powerful project-accounting systems. Again, the financial necessity of billing clients and paying vendors and subconsultants made project accounting an early and continued automation priority for design firms. In recent years, innovation from project accounting vendors has increased with the advent of online, self-service time data entry by employees and improved reporting flexibility. However, these applications are still

Firms have stopped curiously short of fully automating and integrating key business processes...



almost universally implemented as a back office solution for a small group of accounting employees and are rarely used by project or unit managers.

*Key challenges include: accelerating the input and turnaround of project financial data, putting easy-to-use reporting tools in the hands of managers, providing more self-service data entry and querying tools for employees, and allowing controlled online access to project financial data for project clients and partners.*

### **Stand-Alone Project Management Tools**

Project-accounting systems may help project managers monitor budgets, but they are generally weak in scheduling, manpower allocation, detailed task monitoring, and so on. In the case of extremely large projects, organizations have the luxury of developing powerful tools for managing project resources and schedules. But the average firm works on far more smaller projects. In the typical firm, project managers rely on an assortment of desktop software, spreadsheets, and manual systems, which rarely involve integrating data from the firm's project accounting system. In most cases, it's up to the individual project manager to select what, if any, project management tool to use. Project load forecasting happens only informally and assigning staff resources to projects and resolving project conflicts is accomplished only with frequent meetings and much ad-hoc communication and coordination.

*Key challenges include: providing project managers with better templates for budgeting and scheduling, integration of project management and project accounting, real-time access to actual project-labor and non-labor costs, and systematic project resource planning that integrates operations, marketing and human resources.*

### **Proposal Preparation Systems and Firm Qualification Databases**

In many firms, the primary means of acquiring new project assignments is responding to requests for proposals (RFPs) with a tailored document addressing the client's specific needs. Some firms have purchased or developed a database management system to hold descriptions of past projects, staff resumes, client and subcontractor profiles, and "boilerplate" marketing text to retrieve and organize into proposals. Some have put considerable effort into collecting and organizing this information, but few have attempted to make it accessible outside the marketing department.

Marketers also struggle with the responsibility of centrally maintaining project and staff qualification information.

*Key challenges include: broadening employee access to the database of project history and staff qualifications, and empowering project managers and employees to continually maintain and improve it.*

### **Rudimentary Contact Management/CRM Systems**

Virtually every professional services firm has tried to organize some sort of database of clients and prospective clients, if only to produce a holiday card mailing. In the typical organization, many different applications will be in use simultaneously, ranging from a client list maintained in the accounting system, to a centralized contact database accessible only to marketers, to rival systems within different offices or units, to personal information managers and electronic rolodexes. Where firms have attempted to build a centralized database, these applications tend to be deployed primarily among a small group of marketing staff. Firms rarely provide universal access to this knowledge base or take advantage of the collective power of everyone in the firm when they all add, correct, and enhance it.

*Key challenges include: drawing all client information into a single centralized database accessible to all employees. This database will tie in project and accounting data and make the system convenient and powerful enough to integrate smoothly into the daily processes of everyone throughout the organization to ensure that it's actively used and maintained.*

### **General Productivity and Communications Applications**

In the last decade, many businesses have embraced local area networks, put a "computer on every desk," and given workers office productivity suites (word processing, spreadsheets, etc.), e-mail, and internet access. Firms once maintained private secretaries and word processing pools, project correspondence went through the postal service, and specifications were maintained in flat files and three-ring binders. Now, consultants, project managers, architects, engineers, and even attorneys type their own letters and reports, resolve project issues via e-mail, and research products and specs on the web. Although productivity tools and new communication channels seemed to increase the pace of work and level the organizational hierarchy in most firms, it also created concerns of information overload, lack of control over project communication and documentation, and poor quality control. A sense of chaos increased as professionals tried to navigate through hundreds of e-mails and thousands of poorly organized documents.

*Key challenges include: document management, maintaining standards, preserving and organizing the results of online dialog and discussion, and protecting project-related correspondence.*

## **The Internet, Intranets, Project Websites, and Project Portals**

In recent years, many project-based firms have begun using web servers to collect and share loosely structured information such as employee directories, benefit information, policy manuals, technical specifications and even project documents and schedules. These intranet sites rarely integrate with other systems and all content is controlled by a web master or administrator.

At the same time, a host of project collaboration website vendors arrived, promising a secure, convenient forum for sharing project schedules, drawings, corrections, RFIs, discussions and other project-related information between all the players in a project. Although so far the use of these project websites or portals has primarily been limited to larger projects, there is considerable interest in this area from professional services firms.

*Key challenges include: maintaining intranet content, allowing more widespread participation in adding or changing content on the intranet, and sorting through the many offerings to choose a strategy in the rapidly changing project collaboration market.*

## **Overall Lack of Integration**

The picture of current practices in professional services firms that emerges is one of many “islands” of automation, but no integrated enterprise-wide automation. Firms have implemented various “point” systems (that is, systems that automate a single business function), but a number of dots in the picture are missing and no one has connected all the dots in a meaningful way. Let’s look at what this means:

For one thing, several specific pieces of a complete solution are noticeably lacking from most firms, including an enterprise-wide client relationship management system, a robust project resource planning tool, a proposal generation and tracking system, and any sort of automation in the recruitment process. Even firms having adopted industry best practices in all of the areas described in this section — and few firms have gotten even this far — would still have significant holes in the system.

Also, many of the solutions firms implement are available only in a single location, for a single group or user. Since even small firms are likely to be doing business in multiple offices, systems that aren’t easily accessible over a wide area network, dial-up connection, or the internet have clear shortcomings.

But perhaps the greatest weakness is the lack of integration and a coherent interface to all the disparate islands of information. Along with this weakness come several serious consequences for professional services firms.

- First, it requires redundant data entry of the same information, adding to the overall workload of the firm. For example, a client name and address would need to be entered separately in an accounting file, one or more marketing files, various project collaboration systems, and individual contact managers and rolodexes. This sort of redundancy can add up to a considerable amount of time and effort.
- Second, the natural consequence of redundant data entry is inconsistent and inaccurate information. When an address or other fact must be changed in so many places, inconsistencies will naturally creep in. And when two databases don’t agree, employees may have no way of knowing which is correct and may even overwrite the correction with older, less accurate information.
- Third, the burden of integrating information for different sources is placed on the professional, who must continually and individually seek out financial information for a project in one application, client data in another, project correspondence and key documents in several other places, and so on. A professional services firm, where the application of time and resources to projects is the only source of revenue, can ill-afford to make such a poor use of billable time.
- Finally, since information is not integrated or organized in a meaningful way for each professional in a firm, the organization fails to capitalize on opportunities, learn from mistakes, or make effective reuse of ideas and information. Again and again, employees must “reinvent the wheel,” because the answers are always somewhere, but not when and where they’re needed. Or they may inadvertently work at odds with one another, because one hand doesn’t know what the other is doing.

## KEY COMPONENTS OF PROFESSIONAL SERVICES AUTOMATION

### Introduction

As the preceding discussion illustrates, professional services firms have made considerable investments in technology and the automation of many business functions, but have fallen short of developing a system that reflects the way a project-based business really works.

In contrast to the prevailing practices in professional services industries, Deltek advocates an enterprisewide system that ties together all professional services business functions. A system that pulls together all the information surrounding projects, clients, employees, business partners, opportunities, recruits and any other key business entities and processes.

The term "Professional Services Automation" (PSA) is now being used by industry analysts to describe systems that serve the needs of professional services firms. PSA is a "killer application" that enables project-based businesses to evolve to the next level of success. In this section, we explore the individual components that make up a winning PSA solution, then consider how these parts, when joined together, form an even greater whole.

### Summary: Key Components of Professional Services Automation

- Marketing campaign management
- Opportunity and lead tracking
- Proposal automation
- Resource planning and forecasting
- Recruiting and partnering
- Client relationship management
- Project planning, budgeting and management
- Employee time and expense entry and processing
- Project and financial accounting
- Billing and receivables
- Human resource management
- Document and knowledge management

- Business intelligence and practice management
- Project websites (e-business)

### Marketing Campaign Management

Marketing campaigns are events and other activities designed to reach new and existing clients in an attempt to increase corporate visibility and drive new business. Automating this function helps firms develop, execute and analyze strategic lead generation efforts.

Leads, which are contacts with prospective buyers, can be easily managed. Targeted marketing campaigns to engage these leads until there is a defined interest in an offering, can be quickly executed. And once leads become opportunities and clients, they can also be tracked in the system.

Campaign results are available for analysis in real-time so marketers can act on them proactively. Leads from campaigns can be flagged as opportunities for action, assuring marketers that they are followed-up with on a timely basis.

Because marketing campaign functionality should be integrated into the PSA suite, you can establish a budget for each effort and then collect all associated labor and non-labor costs. The combination of campaign budgeting and forecasting along with real-time campaign results, gives firms the ability to quickly calculate campaign ROI, and accurately predict future budgets and success.

*Key entities/processes: marketing lists, lead programs and communications,, client acquisition and retention,, budgets, ROI analysis.*

### Opportunity and Lead Tracking

A PSA solution provides a means for marketers, sales, account managers and other employees to identify specific business opportunities and then aid a firm in qualifying, pursuing, and winning the project. Leads can be assigned to

The greatest weakness is the lack of integration and a coherent interface to information...

employees for pursuit and, as more information is learned (e.g., key dates, actions, nature of the job, and probability of winning it), they can be gathered, shared, and preserved in an integrated, opportunity database.

Deltek promotes PSA solutions, which provide a central database in which target companies are held that might someday be interested in the firm's services. The database should also include the firm's current clients. It is important to track opportunities not just from new clients, but from existing clients and even ones stemming from existing projects. In the not too distant future, we envision professional services firms using one of the newly created, business-to-business web-based marketplaces which would help them identify project opportunities.

External mailing lists will also certainly be used in opportunity tracking. But strategic, ongoing efforts should be focused around the use of the internal marketing database for frequent mailings, web events and notifications, as well as for the gathering of statistics and demographics of prospects and clients. As opportunities arise from this process, they should be tracked to determine which campaigns are the most successful.

Managers should use a summary of all pending opportunities to forecast workload demands and hiring needs. When projects are awarded, information captured in the proposal stage flows directly into the initiation of a new project.

*Key entities/processes: leads, RFPs, interviews, proposals and win/loss rates.*

### **Proposal Automation**

Proposal automation is a critical component to PSA and should be a core area of expertise for virtually any professional services firm. PSA in this area should provide the ability to prepare the majority of client proposals with little manual effort. With a centralized, universally-accessible skills and qualifications inventory of employees, project descriptions and history, client reference information, and corporate credentials/history, the PSA system should automatically gather all of this information together into a well presented package that is targeted to the unique client requirements.

Proposal automation would begin with a system search for the most appropriate prior project experience and the most qualified and available employees. The automatic proposal

generator would then customize each proposal according to established templates or, if applicable, on standard government forms. Of course, the system would track the status of each proposal and would also maintain a record of proposals made, hit rates, and so on to use in analyzing marketing performance.

The maintenance of the project and resource data used on the proposals could be distributed throughout the firm, instead of only in the marketing area. This enables project managers to modify project descriptions and employees to update their qualifications. In addition, employee workloads could be evaluated to determine availability for a new proposal.

Proposal automation needs to also include tools allowing managers to establish opportunity project plans and fee proposals in order to provide clients with an accurate estimate of the work required to complete their prospective project.

*Key entities/processes: RFPs, project histories, employee qualifications, resumes, references, qualificationbased proposals, cost proposals and marketing data.*

### **Resource Planning and Forecasting**

The resource planning process entails the assignment of specific resources (i.e., people) to a project or engagement. This assignment is generally based on the resource's area of expertise, prior experience and education in relation to the experience requirements on the project. Most importantly, the resource assignment must be based on the availability of the resource given the time constraints of the project. In many cases, this process must take place before the project is won to determine if the organization has the existing resources to do the job or if additional resources need to be recruited. Of course, the resource planning implications may drive a "go, no-go" decision for the opportunity. But even if it does not, the resource planning process will shed considerable light on the future resource requirements of the project and for the firm as a whole.

While resource planning and forecasting at an individual project level is important, resource planning at a macro level is arguably one of the most critical and advanced requirements of PSA. Macro-level resource planning involves the balancing of supply and demand between the current and potential projects in an organization. This process weighs the project backlog and probability-weighted proposals against the skills and availability of existing and potential employees.

With this information in hand, project managers and unit managers can better predict slowdowns and project conflicts, manage slack time for types of employees or even specific employees, and keep the marketing and recruiting pipelines synchronized. Managers should be able to analyze supply and demand at any number of levels, including client type, project type, skill/discipline, profit center or enterprisewide.

*Key entities/processes: backlog, proposals, employees, recruits, billings and costs.*

### **Recruiting and Partnering**

Recruiting is an essential process within the services supply chain of a project-based business. Just as a manufacturing business must continually purchase raw materials, a professional services firm will generally need to hire new people in order to meet project needs and grow the business. Fortunately for professional services firms, the primary difference is that their employee resources are regenerating. In other words, as long as resources are kept happy, they will be available for continuous use.

It is important to keep in mind that there are two types of needs that drive recruiting. One is a specific project requirement to add one or more individuals; the second is when a professional services firm has a more general need to hire new people. To some degree, most firms do both types of recruiting; although depending on the type of business, we find that different firms generally favor one approach over the other. Organizations that have smaller projects, or ones that primarily do recruiting at college campuses, will typically do more general recruiting. Organizations that have large projects, government contracts for example, would more typically hire specifically for a project. Hiring people in advance of the specific need enables the firm to perform a more thorough recruiting effort. It also enables the firm to take advantage of certain opportunities but introduces the risk that the newly hired resources will be underutilized.

The same level of automation applied to client and opportunity management would be applied to recruiting and partnering. A database of openings, applicants, interviews, offers, and other hiring-related information would replace the file cabinets of paper resumés, misplaced notes and e-mail exchanges about managers' impressions of applicants. This database would drive a process for identifying and qualifying hiring needs, matching candidates and openings, and managing the interviewing and hiring process. Managers and employees

could view the nature and status of current openings and contribute to the hiring process. Ideally, this process would integrate with one or more of the popular recruiting websites to provide more visibility for job openings and recruits.

The partnering database would contain potential subcontractors, consultants, partners and specialists the firm could team with on a project. Contact information, history of prior teaming relationships, and a searchable qualifications profile would speed the process of identifying team members, rating the prior service level of partners, and viewing all the current project relationships with a particular consultant.

*Key entities/processes: employees, recruits, openings, interviews and partners.*

### **Client Relationship Management**

A PSA system should maintain a single master client record reflecting all information and activity surrounding a client or prospective client. The system should give any employee access to the entire history with a client organization and all the contacts in that organization. The client record would link to projects, people, proposals, documents, employees and anything else that relates to the client. Any employee that came into contact with a client would be able to understand the client's relationship with the firm. Accounting, marketing, project managers, principals, human resources, and everyone throughout the firm would use, augment, and maintain this client and prospect database.

Other important aspects of the online client file would include a history of all important interactions with the client. It takes some discipline for team members to maintain this information, but this is a critical component of PSA success to ensure that all team members working with a client are synchronized and upto- date with the client and project status.

*Key entities/processes: clients, contacts, addresses, telephone numbers, demographic data, competitor data, prospects, e-mail and Website.*

### **Project Planning, Budgeting and Management**

This important process entails determining how a project will be performed and completed. What are the various phases or tasks? What are the timeline and milestones for the project? What types of resources are needed for the project and how many weeks, days or hours will it take? What will the project cost and how much revenue will be generated? What is the

profit target for the project? In most cases, in order to determine scope and dollar value, this planning step will initially need to be performed during the opportunity and proposal phase of a project. Once the project is won and initially planned, project planning, budgeting, scheduling and forecasting will need to continue.

Project schedule success is driven by the ability to meet the project schedule and to not slip on the performance of the project. Many firms use various percentage completion methods of evaluation to determine how well the job is being performed from a schedule perspective. Percent complete, estimate-to complete, and estimate-at-completion are all interrelated and may be determined based on cost, hours expended, or from an engineering point-of-view.

Depending on the complexity of the project or engagement, firms might use an industry-standard project management software application to assist them with this scheduling process. Examples of systems in use within various professional services industries include Microsoft® Project and Primavera®. These tools enable organizations to plan project tasks, to establish the critical path and interrelationships, and provide reporting and visualization mechanisms (i.e., GANTT and PERT charts) for project managers and clients. While these products have value and are typically used on larger more complex projects, they are not integrated with other key information managers need to be successful in their project delivery such as rates, labor and non-labor costs, revenue calculations, resource details and more. They are also not as effective for managing small, quick turnaround projects pervasive in professional services firms. A PSA solution should therefore provide interfaces to assist in the migration of data between these applications.

The budgeting, costing and forecasting aspects of this process generally fall outside the scope of the project management application tools and need to be done closer to the accounting and resource data. The PSA solution should provide the ability to budget and forecast the resources, cost, hours and revenue that a project will require and generate.

Cost status of the project is often intertwined with the schedule status of the project. It's very possible for a project to slip schedule and still meet the cost objectives. Likewise, it is very possible for a firm to overrun project costs badly and still meet the schedule. So, while both cost and schedule should be looked at and are often dependent on each other, it is

important that a professional services firm has processes that can identify both areas of concern.

To address the cost side of project management it is critical that the PSA solution is integrated with project accounting, cost, and revenue data. This data, available from the project-accounting system, and reported weekly, biweekly or monthly, should be integrated with budget and ETC data to give a true sense of where the project stands from a cost perspective. Delivering some form of online or paper report that shows project cost status and revenue is a crucial element of project management for virtually all professional services firms. Then, upon examination of actual cost and revenue data, the project manager or planner can prepare updated ETC cost data and updated revenue forecasts.

A final aspect of project planning that should not be overlooked is the identification of the external and internal success factors on the project. Success factors are typically the business reasons that the client is coming to the professional services firm in the first place. These success factors are particularly important in IT-related work since the business reasons for delivering an IT project are often lost sight of after a few months on the project.

A complete PSA vision should incorporate client satisfaction to ensure that project delivery is on target by identifying success factors and tracking their progress.

*Key entities/processes: project schedule, milestones and deliverables, resource requirements, project cost budget, project revenue forecast, profit planning, project reporting and success factors.*

### **Employee Time and Expense Entry Processing**

A critical business process for virtually every project-based business is the accurate and timely entry of employee time and expense data into the PSA system. Project cost, billing, overall project status, as well as payroll and employee leave are dependent on this information. In addition, good timekeeping processes involve the review and authorization of time charges to make sure they are complete, accurate and charged to the right job.

The key to this process is speed. Ideally, hours are submitted daily and approved within one day of the close of the billing period to enable the billing function to begin immediately. To enable this speed, employees should have the option of

entering their hours and expense report over industry-standard web browsers with an easy-to-use interface. To ensure accuracy, employees should be presented with a pick list of projects or indirect accounts that they can simply click on and enter the number of hours. There should be no need to enter lengthy project numbers in any timekeeping system.

When hours and expenses are entered, the PSA system should give managers immediate insight into how these costs are impacting their plans, who worked on what projects and for how long, so clients can be billed in a timely manner.

*Key entities/processes: timekeeping, expense reports, authorized charge lists, billing.*

### **Project and Financial Accounting**

Project and financial accounting would typically be all of the business processes occurring in the accounting department of a firm. At a minimum, these would include project costing and revenue recognition, project financial reporting, payables, payroll, overhead allocation, labor distribution, general ledger, and financial reporting. Without good management of these processes, a professional services firm will certainly have problems with determining profit and loss on projects, timeliness of billings, independent or government auditors and overall business management. Most importantly, the cost and revenue data generated by the accounting processes are key elements in many of the other PSA processes and components. Project and financial accounting processes and databases need to closely share the same project and employee data utilized in the overall PSA model.

It is critical that project and financial accounting functions be viewed as an integral component of PSA.

*Key entities/processes: project costing, revenue recognition, labor distribution, project reporting, payables, purchasing, payroll, fixed assets and financial reports.*

### **Billing and Receivables**

Billing and receivables collection (i.e., cash flow) is the lifeblood of many project-based businesses. And while some of the previously addressed PSA components may be more important for larger firms, this one is arguably more critical for smaller firms. In many organizations, client billing is strictly a back office, accounting function. More typically, this process combines the efforts of the accounting department with project or account managers who carefully review and/or edit

each billing to make sure it is accurate and conveys the right message to the client.

Billings to clients must be flexible in order to meet a variety of project types and client needs. And billings need to be accurate. But most importantly, billings must be generated, reviewed and sent quickly to ensure the fastest possible turnaround of cash back to the organization. All firms should strive to have a core competency in speed of billing and receivables collection to maximize cash flow on a long-term basis.

As with many of the professional services firm components, integration of this function is key. Billings need to be integrated with time collection and project costing and accounting. Receivables are an integral aspect of client relationship management. The project or account manager needs to know the constant status of receivables in order to communicate any issues or problems directly with the client. Past due amounts may be an indicator of client dissatisfaction.

*Key entities/processes: billings, receivables, receivable collection policies and procedures, and cash flow reports.*

### **Human Resource Management**

Because employee labor is such a key element of delivery and success for most professional services firms, we include the human resource management function as a component of Professional Services Automation. Human resource management encompasses the tracking of each employee's experience, skills, education and degrees and certifications. It encompasses functions relating to employee benefits, 401(K) administration and salary reviews. It incorporates leave tracking and, in larger firms, the whole compensation planning and salary administration process.

Because the PSA system is ubiquitous, many tasks that have traditionally been performed as back office administrative functions could be extended into self-service tasks. Human resources is an area where firms can push more and more functions to the end-user employees and managers to reduce the load on administrative staff. These functions would include timekeeping, changing tax deductions, salary reviews and open enrollment for benefits.

*Key entities/processes: personnel policies, employee qualifications, personnel files and benefits.*

## Document and Knowledge Management

A PSA system should eliminate much of the loosely structured network file system storage that firms currently use for organizing CADD, word processing, spreadsheet, image, and drawing documents and replace it with a secure, central document repository available in a consistent way to all users in all locations. Rather than viewing project or client data in a database, then searching through innumerable folders, archives, and directories for documents related to a project, client or employee, users could quickly locate relevant documents organized and embedded in the database. Navigating from employee, to project, to task, to schedules would happen with a single click. The system would also provide much tighter version control, check-in and check-out of documents, and security than a simple file system.

Over the past several years, many large-scale professional services firms have invested significant resources in developing their knowledge management capabilities. Knowledge management is the process of gathering and centralizing an organization's collective knowledge about their areas of expertise and client experience into one database, accessible by all members of the organization.

The benefits in a large, geographically-distributed organization are fundamental and obvious to their success. Instead of relying on employees' initiative to retain and share knowledge across time and organizational boundaries, an organization would use the knowledge management system to maintain its knowledge base independent of the people who contributed to it. For example, an employee with a particular technical problem could search for past projects relevant to the one they are working on. They can do a full text search of the submittals to research similar technical issues, identify their firm's current expert and contact information, get advice through online, collaborative review of project documents, and record the problem's resolution in their PSA system. And although the benefits are obvious to the larger firms, it is critical for a small firm to begin this process early in the life of the organization.

*Key entities/processes: letters, memos, reports, spreadsheets, messages, project experience, research, personal knowledge and experience.*

## Business Intelligence and Practice Management

From an automation standpoint, we see the process of business intelligence and practice management revolving around business intelligence. This generally has to do with the

reporting mechanisms and data warehouses that a project-based firm needs to run their business. We generally find that most organizations are effectively managed with a core group of one to two dozen key business reports or views.

Cash flow reports, balance sheets, income statements by business unit or area, project backlog, resource utilization, summary project reports, and unbilled receivables are key reporting areas that should be included as part of business management. Business intelligence should be delivered to managers quickly and accurately with a good balance between showing enough detail without losing the "forest for the trees." In a larger, geographically-dispersed organization it makes a lot of sense to deliver business intelligence over the web.

*Key entities/processes: business intelligence.*

## Project Websites (e-Business)

In this Internet age, project-based businesses now have the ability to gain better communication and collaboration with their clients and partners. Project websites are sprouting up everywhere as a means to give project team members real-time access to project information. In most cases, these project websites are utilized for internal team members. However, we envision project websites that are more geared for external clients and partners to provide them with comprehensive information about the status of the project and to enable them to collaborate.

Clients can learn about the people working on their project, get an update on milestones and the project calendar, review project billings, and even participate in resolution of issues through newsgroups and threaded discussions. Job applicants and free agents both inside and outside the firm could directly view current openings and register their interest. Consultants and contractors could access and post project documents. Consultants and designers could collaborate in real time with a shared whiteboard, chat, video and voice communication regardless of their location. The system administrator and project managers could securely control the access rights of each of these clients and outside partners.

*Key entities/processes: clients, partners, project information and data and project issues.*

## KEY FEATURES OF PROFESSIONAL SERVICES AUTOMATION

### Internet-Enabled Technology for Ease of Use and System Longevity

It is no secret that the platform of choice for delivering virtually all software applications in the future will be the Internet. This will provide uniformity and familiarity of the user interface and enable users to access the system from anywhere and at anytime.

We are not just speaking about the internal use of the system on the Internet. It is even more important to connect the PSA system with external e-Business types of functions such as client communication, lead generation, and recruiting — each having an important Web component.

### Synchronization/Interface with Existing Communication and Personal Productivity Tools

Any system as comprehensive as PSA must be open and able to talk and exchange information with today's ubiquitous communication tools. We do not believe that the PSA system should exclusively provide its own e-mail, calendaring, or mobile synchronization applications, but rather tap into existing communications infrastructures. It should be able to launch e-mail messages, Web pages, or common office documents with a single click. Data about personal contacts, calendars, tasks, and notes should be able to synchronize with common productivity applications such as Microsoft Outlook®, as well as with personal organizers.

*Key entities/processes: e-mail, calendars, task lists and organizers.*

### End-to-End Integration

As can be seen from the preceding discussion, a true PSA solution is comprehensive. It integrates all of the above functions from one end of the enterprise to the other, yet it can't be viewed as simply an assemblage of all these components. While each of these components by itself would yield improvements for the professional services firm, it's only when these components are joined together that the real benefits of PSA can be realized.

At the same time, PSA must be universally adopted throughout the organization in order to succeed. A corporate business manager can't do resource planning if only half the projects or half the employees are in the system. Just as the telephone only became truly useful as a communication tool when every household got one, PSA must be universal to work as an enterprise-wide collaboration tool.

And in order to be widely adopted, it must be transparent. In other words, it must easily overlay each business process, without creating a bulk of additional work for users, but enabling them to do their jobs more efficiently. Each user should see PSA as something different, as "their" application, providing for their unique needs.

The user interface to a PSA system must be designed to support and encourage collaboration. It must balance the need to give appropriate functionality to specific areas of the business, with the need for a shared workspace where everyone, even in a far-flung enterprise, can stay "on the same page."

Finally, it's knowledge-enhancing. The system must enable ideas, best practices, and intelligence to spread more quickly up, down, and across the organization. And it must be preserved for a longer time, so an organization can more effectively leverage its years of collective knowledge.

## COMPARING AND CONTRASTING PROFESSIONAL SERVICES AUTOMATION WITH ERP, CRM, PROJECT MANAGEMENT AND PROJECT COLLABORATION SYSTEMS

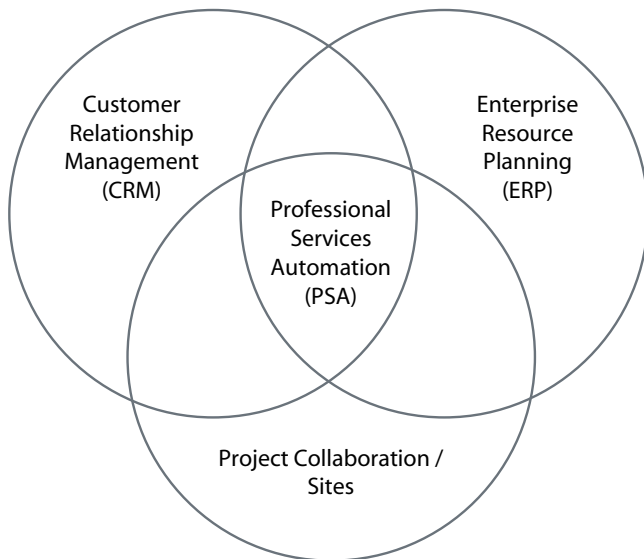
### Introduction

As comprehensive a solution as Professional Services Automation is, many will wonder how it relates to other types of enterprise and project-based systems, including enterprise resource planning (ERP), customer relationship management (CRM), and project collaboration/project websites. In this section, we'll briefly explore how PSA fits into this landscape.

### PSA vs. ERP

ERP is a term usually reserved for the large and complex applications that help Fortune 1000 manufacturing, transportation, process, and other industrial companies manage production, inventories, supply chains and so on.

For all its power, ERP is a back office system that automates the plumbing of a large enterprise, but doesn't directly serve the "knowledge workers" in these firms. In fact, the companies that implement vast ERP systems generally need to build data warehouses and customized data access and analysis tools just to put understandable information from the system into the hands of managers and analysts.



**Figure 2.** Professional Services Automation offers aspects of CRM, ERP, and project Websites, but combines all of them in an integrated way that makes the whole more effective.

Professional services firms, where most of the workers are knowledge workers, would rarely be a candidate for a true ERP system, if only on the basis of cost of the solution and size of the firm, not to mention the fact that these systems have their roots in manufacturing.

The term ERP is sometimes co-opted to refer to any integrated accounting or business management application. In other words, some may consider it synonymous with general ledger and project accounting systems. If presented in these terms, then PSA does encompass features of ERP system, or extends the ERP functionality into the hands of a broader community in a more useful context.

### PSA vs. CRM

CRM software grew over the last decade from the lowly "contact managers" to robust sales automation systems to today's CRM, eCRM, and related systems.

The promise of today's CRM applications is to provide large businesses with a single enterprise-wide client record that tracks all interactions through every area of the company (sales contacts, sales orders and service calls) and in every channel (direct mail, telephone, web, etc.).

In fact, Professional Services Automation encompasses all of the features and benefits of CRM, while extending it and adapting it for professional services firms. Deltek believes a comprehensive PSA system is far more powerful for professional services firms than stand-alone CRM applications because of its integration with project management and accounting functions.

In addition, because traditional CRM systems lack the project-centric perspective of PSA, they don't account for the sophisticated proposal needs of professional services firms selling their services and experience. The generation of graphical proposals, including project approach/scope of services, resumés of key personnel, and corporate/project experience are not supported by product-orientated systems.

As discussed earlier, few project-based businesses have implemented anything approaching a full-scale CRM solution. An integrated PSA solution would accomplish this goal — and more.

## PSA vs. Project Management Applications

Many professional services firms own project management tools such as Microsoft® Project and Primavera®. These tools tend to be complex and are not integrated with other critical information managers need to effectively deliver projects.

Depending on the complexity of the project or engagement, firms might use an industry-standard project management software application to assist them with scheduling processes. These applications enable organizations to plan project tasks, to establish the critical path and interrelationships, and provide reporting and visualization mechanisms (i.e., GANTT and PERT charts) for project managers and clients. While these products have value and are typically used on larger more complex projects, they fall short because they are not integrated with the other key information that managers need to be successful in their project delivery, such as rates, labor and non-labor costs, revenue calculations, a centralized resource pool, etc. They are also not as effective for managing the smaller, quick turnaround projects that are so pervasive in professional services firms.

For example, in working with a variety of firms in the industry, Deltek has discovered that while most firms own Microsoft Project, most don't use it to manage the lifecycle of a project. It is typically used to develop a schedule at the beginning of a project, however since it is viewed as complex and does not integrate with financial management to deliver real-time costs back to the plans, it is not used consistently.

Having said that, a PSA solution should provide interfaces to these types of tools to assist in the migration of data between these applications.

## PSA vs. Internet Project Collaboration Sites or "Project websites"

Project collaboration sites are one of the most exciting developments in recent years for project-based firms. Although they come in many shapes and sizes, project websites are open, internet-based posting areas that let

professional services firms collaborate with their clients on schedules, team credentials, documents, time, expense, and invoice approval, and so on, regardless of organization boundaries.

There is no leading company in this category, since so far the best assessment of this phenomenon has been "more smoke than fire." A number of leading firms have experimented with project sites, but an explosive universal adoption is yet to come.

While the fragmented, collaborative, teaming nature of most professional services firms makes it a natural for project websites, there are a number of obstacles to wide acceptance of the first generation products now on the market. For one thing, firms have not found them practical for projects of less than 5 to 10 million dollars in value, given the overhead of getting started. Second, the proliferation of solutions and lack of standards make it hard for firms to decide on a strategy. More importantly, none of the early project website offerings successfully integrate the internal management systems of a firm. Rather than easing organization and communication within a firm, the project website creates yet another area that must be maintained and kept up to date independently. Rather than unifying the knowledge base of a firm or team, it fragments information even further.

Deltek believes that PSA provides much of the same collaborative possibilities as today's project websites, but in a way that more efficiently integrates the internal work processes and management systems with those of its partners.

## Conclusion

ERP, CRM, Project Management tools, and project websites are distinct business frameworks that, individually, have captured the spotlight in recent years. While all offer benefits to the professional services firm, all fall short of realizing the benefits promised by PSA. Perhaps it is best to think of PSA as offering aspects of each type of application, but combining all of them in an integrated way that makes the whole more effective.

## PROFESSIONAL SERVICES AUTOMATION IN ACTION USING DELTEK VISION®

This chapter describes Professional Services Automation (PSA) from the perspectives of the various participants in a building design project. We use a fictitious project — Crescent Architects designing a laboratory for Gold Pharmaceuticals — to illustrate the benefits of PSA to each player in a project situation. “PSA” refers both to the concept of Professional Services Automation and, in this fictitious example, how Deltek’s fully integrated PSA solution, Deltek Vision, fulfills that concept. While we’ve selected the A/E vertical for this example, IT services firms, management consultants, accounting and consulting firms, and other PSA firms will see the commonality with their business model.

### Marketing Sales Perspective

The whole process got started when the VP of Operations at Gold Pharmaceuticals received a monthly newsletter from Crescent about laboratory design. This newsletter was part of an integrated marketing campaign developed and managed by Crescent using Deltek Vision. He went onto the Crescent website, was impressed, and indicated his interest. Within an hour, Jeanne (marketer) placed a call to the VP and learned

that Gold would shortly be completing an RFP for the design of a new laboratory. During the call, she accessed Gold’s client profile in Deltek Vision as she spoke to him. She was able to ask him intelligent questions about the likely size and location of the project, and referred to a project Crescent Architects had done with Gold nearly a decade earlier. The VP of Gold seemed impressed.

After the conversation, Jeanne flagged the project as an opportunity in Deltek Vision, so that updates on the lead would be in one place for everyone to access. She also filtered the project database by classification code and determined that Crescent had recently completed a similar, successful project in Wisconsin. Next, she discussed the go/no go decision with the business unit manager and the likely Project Manager (PM) and determined potential teaming partners through a Deltek Vision query of areas of expertise. Jeanne found that preparing the Gold proposal was straightforward. In fact, she gave the PM the text from the Wisconsin proposal’s technical approach as a starting point, and inserted different resumés and local project descriptions. She and the PM developed the proposed budget using information on the Wisconsin project’s actual costs.

GOLD PHARMACEUTICAL PROJECT Project Roadmap and Players’ Involvement	Marketing	Bus. Unit Mgr.	HR	Project Manger	Accounting	IT Staff	Client	Partner	CEO
1. Gold Pharmaceuticals calls Marketing with an RFP for a laboratory design project.	✓						✓		
2. Marketing and Business Unit Manager make Go/No Go decision and determine the PM.	✓	✓		✓					
3. Business Unit Manager, PM, and Marketing determine teaming arrangements.	✓	✓		✓				✓	
4. Marketing, PM, Business Unit Manager, and teaming partners prepare proposal and presentation.	✓	✓		✓			✓	✓	
5. After selection, Business Unit Manager and PM assign staff and flag staffing needs.		✓		✓					
6. HR Manager recruits staff as appropriate.			✓						
7. Project begins. Ongoing productin and project management.	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Ongoing communication with project team, client, partners, and subs.	✓	✓	✓	✓	✓	✓	✓	✓	✓
9. Ongoing support from IT, accounting, and HR staff.	✓	✓	✓	✓	✓	✓	✓	✓	✓
10. Ongoing oversight by Business Unit Manager and CEO.	✓	✓	✓	✓	✓	✓	✓	✓	✓
11. Client raises project issues about HVAC design.									✓
12. Project team, client, Business Unit Manager, and eventually CEO participate in a threaded discussion of the issue and resolve it.		✓		✓				✓	✓

After Crescent Architects was “short-listed” for the project, Jeanne used the database to discover that one of Crescent’s senior managers in another office was a personal friend of one of the selection committee members. When she called the senior manager, he told her he had entered this information himself, so that his friend could receive Crescent’s monthly laboratory newsletter. The database also revealed that another selection committee member had worked previously for Crescent’s primary competitor. Jeanne and the PM used this information to strategize for their presentation.

Deltek Vision benefited the marketer/sales person because:

- The Deltek Vision marketing campaign functionality allowed Crescent to reach potential buyers of their services and drive an opportunity to the firm.
- The up-to-date, comprehensive client database increased her productivity in contacting clients, identifying teaming partners and tailoring marketing activities to each specific client.
- Universal access to the client database turned the entire staff into marketers; they worked as a collaborative team as they built upon each other’s inputs.
- The system was able to generate a proposal quickly based on actual costs of a related project and availability of current resources/skills.

### Unit Manager’s Perspective

In the go/no go discussion, Frank (business unit manager) strongly supported pursuing the Gold project. His decision was based on the serious trough in his unit’s backlog that he saw on the horizon in the weekly Deltek Vision backlog report. The report also contained useful information on the unit’s utilization rates, revenue factor, and overhead rates. Frank used both this standard report, accessible on the intranet, and his own individual queries to monitor the overall unit’s and individual PM’s performance.

When Gold announced that Crescent had been awarded the project, Frank and the PM compiled the project’s staffing needs for each discipline and seniority level over the three-year life of the project. They searched Deltek Vision for qualified staff, viewed their commitment schedules, and assigned them to the Gold project as appropriate. Frank flagged immediate and future hiring needs.

Deltek Vision benefited the unit manager because:

- Standard reports and customized queries helped him proactively evaluate and manage performance at the individual, project and unit level.
- Improved access to information also enabled him to plan ahead for marketing, staffing and recruiting activities.
- The Deltek Vision communication and collaboration tools helped him lead his multi-office group as a cohesive unit.
- Increased access to client relationship and project information made him more aware of what was actually going on at the project and operations level.

### Project Manager’s Perspective

Martha (project manager) had been selected to manage this project because her unit manager discovered in the client’s personal notes that the client and Martha had served on the same advisory committee.

Her team members were located in offices across the U.S. All could access a central virtual project workspace, and had different levels of access to the embedded project files there. Updates or revisions were available instantaneously, eliminating the expense, delay and confusion of transferring different versions of documents.

Martha was able to jump-start the project planning process by utilizing a previous project plan that was of a similar nature to the Gold Pharmaceuticals project. She made some revisions to the work breakdown structure and hours and all team members assigned tasks on the project were automatically notified of their assignments through the Deltek Vision email alert functionality.

PSA greatly improved Martha’s productivity as a PM. She had immediate online access to standard reports on financial status, and could also conduct customized queries. As team members entered time and expenses for the project, those costs were immediately reflected in the project plan so that Martha had realtime visibility into the project status. Milestone alerts warned her when the budget, profit, or schedule for the project were at risk so that she could make adjustments to ensure that the project came in on time and under budget. She also reviewed and approved billing and payables information online to expedite the billing process.

Deltek Vision benefited the project manager and team because:

- The project team increased its productivity through a secure, central document repository available in a consistent way to all users in all locations.
- Good communication and collaboration between all offices also increased their productivity.
- A third productivity gain came from easy access to past project information, rates, standards and libraries.
- The team avoided mistakes by learning from actual costs and issues encountered on previous projects.
- The PM could manage better with immediate, comprehensive access to relevant project information.
- The PM could build her relationship with the client through her knowledge of the client's complete history with Crescent, and contribute that information back into the system so that other Crescent employees could benefit from it.
- The PM was able to select the most appropriate project team using the Deltek Vision database of staff resumés and commitment schedules.
- The PM benefited from having real-time visibility into the costs, revenue projections, and profit projections for the project.
- Because time and expense entry and approvals were accomplished electronically and on a more frequent basis, errors were reduced and the billing cycle was reduced resulting in better cash flow.

### Finance and Accounting's Perspective

It was simple for Kate (accounting) to open an active project for the Gold Pharmaceuticals project, since marketing had already entered much of the project information in its opportunity phase. When the contract was awarded, she was notified through the Deltek Vision alert generator and was able to automatically create a project record. By 9 a.m. each Monday morning, staff in all offices submitted their electronic time sheets. Standard project reports (including labor, expenses, and receipts to date) were immediately available

through the system. Unit-level and corporate reports were also updated. Staff had different levels of access to financial information.

Because Gold received invoices in a timely fashion and in their own format with no errors, they generally paid their bills promptly. In the rare event of delayed payment, Kate was proactively alerted to any outstanding receivables via the Deltek Vision AR Aging Alert. She used the system to email a second identical invoice stamped "overdue." The PM was alerted as the delay approached 60 days, and stepped in to try to get Gold to pay the balance. The unit manager monitored his report of A/R for all projects in his unit.

Deltek Vision benefited the finance and accounting manager because:

- With no data re-entry between the integrated accounting, marketing and PM databases, her productivity and accuracy increased.
- Automation increased the productivity of processing expenses, accounts payable and accounts receivable.
- Kate's internal clients were able to access the financial information they needed, when they needed it.

### IT Staff's Perspective

Jeremy (IT manager) still suffered from pre-Deltek Vision nightmares. Back then, most employees required tremendous IT support in terms of labor and hardware. They installed their own software and then expected IT support for it. They deleted and misplaced project documents. They asked IT staff to help them extract information from one database and transfer it to another. And they e-mailed enormous document attachments that taxed the system's capacity. In addition, Jeremy and the IT staff had to maintain and upgrade numerous systems that each had different architectures, deployment models, hardware requirements, and training requirements.

Now, with Deltek Vision, updates were easily installed on one set of servers, thus upgrading everyone in the company without having to touch any of their machines. Also, because Deltek Vision is a solution that integrates all of their business functions into a single application with a single user interface, support and training were much easier than before.

Universal access to the client database turned entire staff into marketers

Deltek Vision benefited the IT staff because:

- Standard applications dramatically reduced the level of necessary IT support. IT staff could become experts in one standard for each PSA function, instead of trying to support an array of individual applications.
- Upgrades happen on one set of servers instead of needing to install software on every user's machine. This saves the IT staff a substantial amount of time and frustration.

### Client's Perspective

When John (client) contacted Crescent, he was impressed with the fact that people he spoke with in the organization already seemed to have a basic understanding of Gold Pharmaceuticals and Gold's relationship with Crescent. In fact, based on Crescent's targeted mailings, he would have said that Crescent was the expert in laboratory design (when in fact the bulk of Crescent's revenues came from private land development).

As the project progressed, John was able to keep up with the project calendar, issues and cost and billing status, and even keep a close tab on which individuals were working on the project. Looking at a preliminary design of the HVAC layout, John was concerned that exposed ventilation ducts would reduce the versatility of the laboratory configuration. He e-mailed the PM with his concerns. The PM used John's e-mail as the starting point for a threaded discussion, to which both John and the project team could contribute. With the PM acting as facilitator between the client's business goals and Crescent's technical expertise, the issue was resolved efficiently and effectively.

Above and beyond his own interactions with the virtual project workspace, John knew that Deltek Vision made Crescent's internal operations more productive and helped Crescent meet the project goals of budget, schedule and quality.

Deltek Vision benefited Crescent's relationship with the client because:

- A strong, intimate relationship was built on past interactions and accumulated knowledge.
- Through online access, the client was able to keep track of project status, view and download certain documents, and participate in project discussions.
- Client satisfaction resulted when Crescent executed the project according to project goals.
- Crescent was able to keep a complete, centralized record of its client interactions.

### Partner or Subcontractor's Perspective

Acme Laboratory Engineering (partner) had an excellent relationship with Crescent. Because Crescent maintained the firm's qualifications profile, contact information, and record of good past performance, Crescent already had a solid idea of the likely "fit" between the two firms by the time initial conversations took place. Having this background meant that the conversation was more likely to be productive. During the projects themselves, the Acme team could access and post project documents, view online project status and financial information, and better manage their role as part of a unified project team.

Deltek Vision benefited Crescent's relationship with the teaming partner because:

- Expectations about teaming arrangements were well informed and efficient.
- Productivity markedly increased with real-time access, posting and writing capabilities to select project documents.

Deltek Vision allowed him to view Crescent's performance when he needed it, at the level he needed...

### CEO, Managing Partner, or Principal's Perspective

When the Gold Pharmaceutical client called him with a concern about the HVAC layout, Tony (CEO) followed the threaded discussion on the issue to get, directly from each "horse's mouth," the opinions and actions of the various participants.

After the call, Tony queried all issues keyed to Gold. He determined that Gold had a history of changing design criteria midway through a project. He then queried Gold's billing history and sighed in relief — historically, Gold continued to pay despite technical concerns on a project. Tony contributed to the HVAC discussion (including confidential advice to the PM and project team) and helped resolve the issue.

Because of Deltek Vision, Tony felt well in touch with company operations. When each of the units, project teams, support functions, even individuals, had maintained their own information on their own applications in their own file format, Tony depended on other people

for periodic standard reports. He felt overwhelmed by the paperwork. Now, the Deltek Vision Executive Dashboard allowed him to view Crescent's key performance indicators when he needed it, at the level he needed — from corporate overview, to unit summary, to individual performance data.

Deltek Vision benefited the senior manager because:

- Up-to-date, corporate-level, graphical charts and reports presented a comprehensive picture of the firm's health.
- The senior manager was also able to access "down-in-the-trenches" project- and unit-level information on clients, financial performance, trends, actions, issues and so on.
- Deltek Vision assisted wide management goals such as communication to all staff, planning ahead for marketing and staffing, and knowledge management in general.

## RETURN ON INVESTMENT FROM PROFESSIONAL SERVICES AUTOMATION

It should be clear by now that Professional Services Automation will have a large impact on professional services firms and involve virtually every area of an organization. Before undertaking such a far-reaching project, any firm will need to develop a strong case for return on investment (ROI).

Although systematic studies of ROI will be ongoing, Deltek works with numerous firms across the PSA space that are finding tangible or intangible returns in four critical areas — increased productivity, higher quality, preservation and transfer of knowledge within the organization, and stronger relationships with clients. All of this leads to greater revenue, profitability, and cash flow.

### Getting More Done in Less Time: How it Increases Productivity and Revenue per Employee.

- In a professional services firm, time is money, and cycle time and turnaround time can make or break a budget. Deltek Vision delivers project- and client-sensitive information faster to all team members, and reduces project turnaround times.
- Ramp-up time for new employees is a big drain on a professional services firm. With Deltek Vision, new people get up to speed faster when armed with a comprehensive knowledge base of the firm's projects, people, clients, and practices. In the case of an engineer earning \$50,000 per year and billing \$125 per hour, reducing the orientation period and becoming chargeable on a project just one week sooner could save nearly \$1,000 in training time and generate \$5,000 in additional revenue.
- Professional services firms live and die by their ability to balance supply and demand and keep staff utilized. Deltek Vision gives

firms the ability to improve project resource planning and fine-tune marketing and recruitment pipelines. The result is reduced slack time and increased job chargeability for employees. Assuming sufficient project demand and the ability to stay within budget, an average 400-person firm that raised firm-wide job chargeability from 58 percent to 63 percent would create an additional 41,600 billable hours per year. At an average billing rate of \$75 per hour, that could produce \$3.12 million in additional revenue.

- Professional services firms spend a large amount of time in meetings, on telephone calls, as well as emailing to update team members and stay connected with clients. With Deltek Vision, each user has an individualized portal to the project, client, and corporate information they need. The result is less time in meetings and more time on productive tasks.
- Thanks to faster and more accurate delivery of project cost and budget information, project managers are better able to apply time and materials to the right tasks and make adjustments. A \$200,000 design project with a five-month schedule will burn nearly \$10,000 a week in budget — and considerably more in some weeks. A delay of a few days in project reporting could mean a major difference in budget status.
- Less time is wasted on low probability sales efforts. A more efficient marketing effort includes faster identification of sales leads, a coordinated opportunity pursuit process, and a higher close rate. It is not uncommon for more than one office or unit of a professional services firm to be simultaneously pursuing the very same project opportunity.
- Redundant work efforts are reduced or eliminated, thanks to a single instance of data items like client records, project files, employee profiles and so on.

Team productivity rose thanks to secure, central document repository available in a consistent way to all users in all locations

- Deltek Vision empowers people throughout the organization to charge time and expenses, initiate projects, approve invoices, and perform many other tasks that have traditionally required paper forms and re-keying of data by back office staff.

### **Increasing Quality: How it Improves the Quality of the Firm's Solutions and Project Deliverables.**

- By capturing, sharing and preserving the progress of each project, a firm can reduce future errors and omissions because more people learn from each failure, instead of repeating the same mistakes again and again. In some types of professional services firms, a firm may spend over \$700 per employee annually (or 1 percent of net service revenues) on professional liability insurance. In addition, 30 percent of firms report having made a claim in excess of legal defense fees. Ensurers give firms a strong financial incentive to reduce the number of claims.
- Instead of each individual having to "reinvent the wheel," innovations, new ideas, and best practices can be more easily identified, documented, shared, and integrated into a firm's business practices, even in a fragmented, multi-office organization.
- Because the whole project team, including external partners and the client, participate in the same collaborative system, problems and opportunities can be identified earlier, alternative solutions proposed more quickly, and better, more agreeable decisions reached.
- When bidding on new work, previous project plans can be cloned and revised ensuring that a realistic fee proposal and work plan are delivered to the client. This leads to a project planning process that is "jump-started" during the opportunity phase and becomes more refined and targeted over time. The result is delivering projects on-time and budget, and meeting/exceeding expectations.

### **Building an Organization Greater than the Sum of its Parts: How it Improves Communication, Collaboration, and the Transfer of Knowledge in the Firm.**

- The universality of Deltek Vision breaks down the walls and boundaries between offices, groups, and hierarchy levels, providing a new common context for work, idea exchange, and culture formation. It will be difficult to place a dollar

figure on this benefit, but the impact could be profound for geographically-dispersed organizations.

- The integration of data and documents that are scattered in many different places makes it far easier to get the right information in the right hands at the right time. By some estimates, as much as 14 percent of the typical employee's time is spent looking for information needed to do the job at hand. In a firm where the average employee salary is \$50,000, that equates to \$7,000 in wasted raw labor each year for every employee. In a 100-person firm, if this wasted time could be cut from 14 percent to 10 percent; the result would be \$200,000 in annual savings.
- Because employees have a unified view of the firm's knowledge base on clients and project, they can more easily avoid costly mistakes. Too often top management finds out that a unit has made a \$300,000 proposal to a firm that is known to be a bad credit risk.

### **Creating Closer Ties to Clients: How it Helps Build a More Intimate and Longer-Lasting Relationship with the Firm's Clients.**

- Because all client data is maintained in a single shared system, instead of in many individual rolodexes and files, client relationships, market intelligence and understanding of clients persist, even as individual client managers come and go.
- It enables the creation of a far more comprehensive and accurate database of decision-makers and influencers at all levels of the client organization, which can be used to drive more far reaching and cost effective direct marketing and client awareness programs. For example, a typical 10,000 piece marketing mailing could easily cost a firm \$20,000. If the mailing list is not continuously updated because there is no broad-based access to it, it would not be unusual to find that half or more of the addresses or names on this list were incorrect. This means that 5,000 pieces at \$2 each are wasted — the equivalent of throwing \$10,000 out the window. Deltek Vision greatly increases the quality of the mailing list due to the ability of employees to make changes as they discover inaccuracies in the data.
- The Internet and the Deltek Vision system become new interactive channels of communication linking the client to the firm and blurring the boundaries between the client and service provider organizations.



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Deltek is a global leader dedicated to delivering enterprise management software that meets the unique needs of project-focused organizations. With over two decades of experience, Deltek enables companies to maximize profitability and productivity, integrating all aspects of their businesses. More than 11,000 customers worldwide rely on Deltek to streamline operations, improve performance and win more business.

- By assembling and presenting all pertinent client relationship history to everyone in the organization, every future interaction with the client will be enhanced with greater awareness of context, sensitivity to needs, and quicker action on problems and opportunities.

## DELTEK'S CONCLUSIONS

Professional services firms are not like other businesses. They have unique ways of working, unique challenges, and unique opportunities. While progressive project-based businesses have already embraced PSA and are realizing incredible results and return on investment, there are still many firms that have yet to fully automate their key business processes or to successfully integrate their knowledge base. The time is ripe for a new type of enterprise application that will drive professional services firms to a new level of performance. Deltek delivers an industry-specific, proven web-based application that integrates all of your core business processes, including client relationship management, proposal development, resource and project planning, accounting, employee time and expense, billing and payroll.

Firms that embrace PSA will find tangible and intangible returns in four critical areas — increased productivity, higher quality, preservation and transfer of knowledge within the organization, and stronger relationships with clients.

Recent years have shown us incredible growth and economic stagnation. The forward thinking firms that invested in PSA are realizing the incredible benefits and efficiency gains needed to flourish in varying economic conditions. Some firms that did not embrace this model are no longer around. Those that succeed will be the ones that enjoy strong support from the CEO and can bring all factions of their management to the table to make a commitment to this common goal of integrating business and knowledge management.