chapter
ONE

What Is the IT Consulting Business?

THE SIZE AND SHAPE OF THE BUSINESS

In 1943, Thomas Watson, Sr., the patriarch of the International Business Machines Corporation, made one of the most wrongheaded predictions in business history. "I think there is a world market," said Mr. Watson, "for maybe five computers."[1] As with all unprecedented developments, the computer's path to value and profit was not obvious. It took Watson's son, Thomas Watson, Jr., to see the potential of the computer as a business device, and, over his father's vigorous opposition, to transform the former Computing-Tabulating-Recording Company into IBM, the giant that stood astride the computing universe for decades.

Now, half a century later, what is the state of the information technology industry, especially the services portion in which we are interested? According to a report by the respected investment analysis firm Cherry Tree & Company, the IT industry accounted for 13 percent of the total U.S. gross domestic product in 1996.[2] That percentage translated to about a trillion dollars in revenue that year, and that amount has grown significantly since then. Information technology today is a larger industry than healthcare in the United States. That's a far cry from Mr. Watson's five computers!

Of course, for those of us in the IT services industry, it's great that the use of computer hardware and software is huge and growing. Rather than looking at the entire IT universe, however, it will be more instructive for us to take a targeted peek at the results in the services segment. IT services, according to the Cherry Tree report, generated $545 billion in 1996, and made up 7 percent of the total domestic

product that year. Cherry Tree dissected our industry a bit further by categorizing the types of services that IT firms provide, as follows:

- Project based services such as IT consulting, systems integration, and project management;
- Operations management services such as IT hardware and software management, and business process management (for example, call center operation), network management, and IT staffing and recruiting services;
- Maintenance services such as hardware repair and maintenance and software maintenance;
- Support and training services for IT personnel and end users; and
- Business process utility services, such as credit card processing, payroll services, and order fulfillment.

If we examine this report further, we can get a flavor for the size and scope of these IT service business segments. Looking only at publicly traded companies, Cherry Tree represents the 1996 earnings for these segments in Table 1.1.

Table 1.1. IT Service Business Segment Earnings

Sectors	# of Firms	Revenues (Millions)	Market Value (Millions)
Project-Based (Project Mgmt. & System Integration)	26	$5,618	$20,829
Project-Based (Software & Installation)	15	15,436	63,573
Operations Management (Hardware & Software Mgmt.)	11	26,238	33,698
Operations Management (Staffers)	16	16,555	12,713
Support & Training	4	591	3,678
Business Process Utilities	12	17,718	59,463
Other	3	19,840	34,666
Totals	87	101,996	228,619

Source: "IT Services: Emerging Investment Sector" by Cherry Tree & Company © 1998. Used by permission.

As a great number of firms are privately held, it seems clear that these numbers are but a fraction of the total activity in our field. The $21 billion generated in the project-based segment was earned by just forty-one firms! Anyone in this business knows that there are hundreds and perhaps thousands of smaller, local firms that offer these services, whose revenues didn't make it to this analysis. Nonetheless, these numbers are impressive. It should be clear that, with over $100 billion dollars of revenue, and with over $228 billion in market value, the IT services business is healthy and displays the revenue potential to attract ambitious entrepreneurs.

One interesting statistic that emerges from Cherry Tree's findings is their contention that 79 percent of all IT services are performed by *internal* IT organizations.[3] As most IT services firms have discovered, the internal IT team is often our most potent competitor! The flip side to this statistic is the clear message that, as more companies accept the concept of IT as a utility rather than a core competency, there is a tremendous potential for growth in our business. Growth in the IT services sector averaged 12 percent through 2001, as compared to average GDP growth of about 5 percent. Interestingly, this figure works out to account for almost 20 percent of all economic growth in the United States during that period. As evidenced by the major economic dislocations caused by the downturn in technology spending in late 2000 and early 2001, IT has become the main engine of growth in the U.S. economy. When IT sneezes, the overall economy catches pneumonia.

If we look at the individual segments a bit more closely, we can see that certain components of the IT services business have even brighter growth prospects. According to this report, the consulting and project segments of the business will sustain growth of over 14.5 percent, and Internet/intranet services will grow at over 100 percent. While the bursting of the Internet bubble will likely put a crimp in these projections, it's nonetheless clear that there is real opportunity here for those who can come to market with a competitive advantage.

These types of aggregate financial projections are interesting for the investor and industry commentator, but what do they tell those of us who need to build and run IT services firms? There are, in fact, other reports and surveys that may be better able to help us gain the knowledge and make the critical decisions that will determine our success in the marketplace. Rather than looking at these collective industry numbers, let's now examine a report that takes a more close-up look at the IT services activity in a particular region.

THE RANGE OF SERVICE POSSIBILITIES

In 1999, the Information Technology Association of America commissioned Purdue University and the consulting firm of Sina & Royce to perform a survey of IT consulting firms in the Chicago area.[4] This survey was done to fill a gap in the publicly available information about the IT services business. As we saw in the Cherry Tree report, the performance of the large firms are all on the record. These firms are publicly traded and so must report to the SEC and the investment community regularly. Their business strategies, their successes, and their challenges are regularly scrutinized by the business press. The next tier of firms—from the "two guys in a garage" programming shops to the vertically focused middle-market firms—are much less visible. What are their strategies for differentiating themselves? How do they go to market? How do they turn a profit? Are there any discernable trends or traits that can help us understand these mid-market players?

The ITAA study set out to examine middle-tier IT services firms in the Chicago metropolitan area. Chicago was selected as a representative city. By searching the web, and sorting through associations, mailing lists, and the Yellow Pages, the survey team was able to identify 430 firms in the Chicago metropolitan area that fit their definition of an IT services firm. The study team gathered extensive market evidence about middle-tier IT consulting firms, asking questions about sales and marketing effectiveness, about recruiting and retaining talented IT teams, and about the services and products they sell. Additionally, they conducted in-depth interviews with executives of fifty-five of these firms. The study team then analyzed the results of these surveys and interviews and prepared some overall findings about firm performance, sales effectiveness, services development, employee dynamics, and future directions.

This study produced some very illuminating results. The team's definition of what constitutes an IT services firm was itself interesting. The team determined that any professional services firm that expressed an "interest in IT as part of its service delivery" model was an IT services firm! This broad criterion illustrates the difficulty of deciding exactly who fits in our industry. The criterion for firm size was similarly broad—any firm with more than twenty and fewer than one thousand consultants was included. The study team also devised a scheme for segmenting the firms it surveyed. Rather than grouping firms by the type of technology they address or the markets they target, they categorized them by their

size and by the maturity of their delivery processes. They formulated three categories: *small practitioners, boutique specialists,* and *emerging expansionists.* In the small practitioners category they put firms with an average workforce of about thirty consultants. These firms, they found, typically had informal and flexible project processes and competed based on their customer intimacy. Boutique specialist firms were found to compete based on deep, single-technology expertise, to be more likely to have some established standards and processes, and typically had about seventy consultants delivering services to clients. Finally, the emerging expansionists were typically multi-location shops running multiple lines of practice, and they had developed beyond process toward structured methodologies. They usually had more than one hundred consultants on staff.

Once we go beyond these surface categories, however, the picture becomes more complex. The firms surveyed displayed many different organizational models. Some were wholly owned subsidiaries of larger consulting firms. Some were publicly traded entities. Some were partnerships. Many were privately held corporations. When asked how they developed new business, some replied that that was the responsibility of the partners. Some had a "rainmaker" model, in which specific partners or executives focused exclusively on business development. Some had dedicated sales teams. Some relied on alliances with vendors to generate new business. Many used combinations of these business generation models.

The complexity extended beyond the organizational issues. When polled about specific problems and concerns, the responses indicated that these firms were struggling to construct winning business models. Only 60 percent said that they were effective at generating growth in their businesses. Less than 15 percent rated themselves "excellent" at marketing, and only 23 percent said they were meeting their marketing objectives. Only a third of respondents said their sales efforts were as good as their competitors were, and 20 percent still used price as their main differentiator in the sales cycle. Seventy-one percent said that their use of alliances and partnerships to drive sales needed to improve. Half said they couldn't recruit the technical staff they needed, and 45 percent said once they recruited them they couldn't keep them. Forty percent said that they had doubts about the profitability of their relationships with some of their clients, and the same number expressed concerns about the profit potential of one of their lines of business.

The results of this survey illustrate some of the key concepts we'll explore in this book. The IT consulting firm is different from other professional services firms.

The structure, organization, and processes in the legal profession, the medical office, or the accounting firm are fairly well-established. Not so in IT consulting. The simple act of finding and hiring staff offers challenges in our business that have no corollary in these other types of professional firms. Methods for marketing and delivering our services are still being defined. Management practices are being invented as we go along, and many managers aren't clear about the measurements that should be applied. In short, this survey, and my experience working with IT services firms, indicate that there are still a lot of open questions about the most effective ways to build and sustain an IT consulting firm.

Based on my experience and a careful review of analysis regarding the IT services business, I would segment our business into three categories:

- Outsourced IT Services;
- Consulting and System Integration; and
- Custom Application Development.

These categories are not the only dividing lines in the IT services business, of course. Like the larger professional service firm universe in which they live, IT services firms are positioned all along a spectrum from the large global firms that provide a complete range of services to clients across industries and regions, to the small local technical specialists providing highly targeted services to a specific industry. There's an old adage in the professional services industry, "Big firms like to work with big firms." This is true not only because of the perceived cultural fit between large corporate entities, but also because there is a clear economy of scale in working with a firm that can create and implement global IT strategies appropriate to a global enterprise. These economies of scale accrue mostly on the client side, however, as the global enterprise still must be serviced from local offices, with the accompanying costs and resource utilization. Still, despite the lack of compelling economies of scale for the service firm, the marketing message of working with one firm globally for all your IT service needs, the so-called "one-stop shop" approach, with the reduction in management bandwidth for the client that this implies, creates a distinct competitive advantage that small firms struggle to overcome. This is one reason why many smaller firms decide that, even though the Fortune 500 is "where the money is," the costs of competing in these firms make them an unattractive target.

At the other end of the spectrum are the local boutique shops that specialize in one particular business model, technology, or industry. Specialists by business model include those firms that have decided that their best competitive advantage lies in offering hardware maintenance contracts, for instance, or website development. These firms attempt to build a defensible competitive niche by focusing on a piece of their clients' overall IT needs and striving to fill those needs at the best value. Technology specialists focus on a particular technical area, from database design to customer relationship management software implementation, and develop depth of experience and expertise in that area in order to compete. Vertical industry specialists target a specific industry, from healthcare to restaurant management, and continuously improve their expertise in the application of IT to that industry's needs, building superior domain expertise as their competitive advantage. Obviously, many winning business models in IT services are a hybrid of these approaches, such as the Microsoft-focused healthcare application development house. I present this spectrum as a model to help guide our conversation.

So we've seen that there is a wide range of possible business models in the IT services industry and just as broad a variety of sizes and market focuses. Now that we've named and defined the business models that make up our industry, let's go back to our original intent. How does knowing these categories help the entrepreneur and manager build an IT consulting practice? Obviously, the firm leaders need to make decisions about where their core competencies lie, and where they wish to compete.

Outsourced IT Services

The Outsourcing Institute, a trade association that focuses on providing information and an online community for those in the outsourcing sector, publishes an annual industry overview entitled "The Outsourcing Index."[5] The Outsourcing Institute collaborates with Dun & Bradstreet to measure and evaluate the current state of the industry and to project future directions and trends in the growth of the outsourcing market. The most recent Outsourcing Index contains some illuminating data about corporate acceptance of IT outsourcing and the challenges and opportunities facing those of us who decide to target this marketplace. For firms in the IT consulting industry, one statistic stands out: over 20 percent of all outsourcing dollars are spent on IT outsourcing. In an overall outsourcing market that has expanded from $150 billion in 1997 to almost $400 billion in 2001, 20 percent

represents a huge opportunity. Another important finding of the Outsourcing Institute's Index is that of those firms that are not currently outsourcing IT functions, over 18 percent are actively considering it. This augurs well for continued growth in this marketplace, even in the tough economic times that IT is experiencing after the bursting of the Internet bubble.

Before we dig deeper into the current state and future potential of the IT outsourcing business, let's define this business in a bit more detail. In a landmark study entitled "Information Systems Outsourcing: Myths, Metaphors, and Realities,"[6] the authors performed a rigorous academic study of IT outsourcing by reviewing and analyzing a representative sample of outsourcing deals in various industries and came to some interesting conclusions. For background, they divided IT outsourcing into three categories:

- *Body Shop:* using contract IT personnel to meet short-term demands;
- *Project Management:* outsourcing specific projects to external IT providers and transferring the responsibility for the outcome of the project to the outsourced provider; and
- *Total Outsourcing:* putting the external vendor in total charge of a significant piece of IT work. This includes total data center outsourcing and the associated hardware and software support.

To these categories, devised in the early 1990s, we should add some newer categories:

- *Application and Infrastructure Outsourcing:* services that utilize the standard protocols and interfaces of the Internet to contractually hand off responsibility for deploying and managing applications or IT infrastructure to an external provider; and
- *Selective Outsourcing:* in which IT departments divide their IT services into those that they determine can be outsourced and those they wish to retain in-house. Examples of this are the outsourcing of desktop support, network management, or IT help desk services. In the ever-evolving jargon of the outsourcing business, this is sometimes referred to as "out-tasking."

Across the spectrum of IT outsourcing business models, from body shop to ASP, the underlying business logic is the same. The argument is that IT outsourcers can reduce costs because IT is a commodity, a utility that is subject to economies of

scale. From the economies of recruiting, retaining, and developing multiple IT resources in a body shop environment, to the economies of serving generic business applications to multiple clients from one IT infrastructure, the concept of deriving economies and so delivering IT services to clients more cost-effectively is the central driver of the outsourced model. This underlying model has undergone extreme change in the last few years, as the advent of the Internet and its standardized protocols and interfaces has created new opportunities to "virtualize" the IT department.

According to the 1993 IT outsourcing study, organizations surveyed decided to outsource their IT functions primarily for cost reasons. Some of the momentum that has driven the outsourcing industry in the past decade can be attributed to the claims for cost/benefits that have been publicized in this study and other publications. Consider, for instance, just a couple of the many results quoted in this study:

- American Standard Corporation claimed to have saved 40 percent of their overall IT costs by outsourcing their data operations, and
- Hibernia National Bank projected savings of up to $100 million from their outsourcing arrangement with IBM.[7]

Another factor cited in the drive toward outsourcing is the desire to gain access to IT skills, talent, and expertise that may be difficult to obtain in the job market. As stated by Kathy Hudson, Eastman Kodak's former CIO, who is credited with starting the IT outsourcing trend with Kodak's landmark deal with IBM, DEC, and BusinessLand, "If you're a really good technical person, do you think you'll have a better career at a photography company or a computer company?"[8] This access to the best talent in the IT talent pool is one of the key sales messages of the outsourcers. I've been along on many outsourcing sales calls in which the primary message was "We can offer technicians a better career path, more development, more diversity of assignments, so we get the best and the brightest." As the IT shortage of the late 1990s is replaced by an IT glut, as seems to be happening, this argument may lose some of its impact.

As we've noted, the Outsourcing Index report for 2000 shows some impressive growth, growing from $290 billion to over $340 billion in total revenue in the most recent year alone. Of course, this represents all outsourcing, not just IT, but even our 20 percent slice ain't peanuts. Our percentage is even larger when you consider

that this report separates customer service and grants it an additional 7 percent of the market, and some component of that is related to IT help desks and call centers. The Outsourcing Institute projected an 18 percent growth rate for IT outsourcing in 2001. Their report found that 29 percent of companies with revenues over $10 million outsource some of their functions, as do 36 percent of larger companies with revenues over $50 million. It's also interesting to note that, according to the OI report, 10 percent of all outsourcing expenditures are occurring overseas, often in international departments of U.S. companies. This is another indication of growth potential in the outsourcing market.

We've noted a couple of reasons why businesses might decide to consider outsourcing. Let's look at the entire list presented by the Outsourcing Institute, to get a more complete picture of the outsourcing decision process. According to the OI, the top ten reasons that companies outsource are as follows:

1. Reduce and control operating costs;
2. Improve company focus;
3. Access to world-class capabilities;
4. Free resources for other purposes;
5. Resources not available internally;
6. Accelerate reengineering benefits;
7. Function difficult to manage or out of control;
8. Share risks;
9. Make capital funds available; and
10. Cash infusion.

Apart from the oft-repeated claims of reduced costs and access to enhanced capabilities, many companies are now looking at outsourcing as a way to improve company focus, often articulated as the desire to "stick to our knitting" and focus on the core competencies that provide competitive advantage and allow other providers to take care of non-core functions. This indicates that some clients are beginning to see outsourcing as a strategic, as opposed to a purely tactical, decision. By considering core competency and "unique value proposition" issues, clients are acknowledging that, as the outsourcers have often claimed, there are certain

functions within IT that are more of a utility than a real competitive competency. This acknowledgement is an important step in the migration of outsourcing to a higher perception of added value. This migration requires us, as IT service providers, to migrate from the "body shop" mode of merely bringing commodity services to the table. We're now expected to have a strategic value conversation with our prospects, rather than an "I have great engineers cheap!" conversation.

Another important element outsourcers should notice about this list are the references to risk and manageability. As noted in items 7 and 8 of the above list, many clients want to outsource their most difficult and intractable functions to external suppliers, and they expect those providers to take on the risks associated with managing those challenging tasks. IT services firms that decide to enter the outsourcing arena must recognize that, because clients want to get rid of the headaches and negative exposure associated with problem functions, outsourcers must have a solid, disciplined approach to risk management. In short, we must make sure, with every engagement we undertake, that we understand how much risk the client is trying to shift to us and match that to profits and benefits of the relationship, in order to calculate the amount of risk we're willing to take on. I've seen many outsourcing arrangements turn into strained marriages, with tense meetings across the table every day, as the outsourcing service provider realizes the true extent of the problems and risks that have been shifted to them, and the client realizes that just dropping a function into an outsourcer's lap does not automatically solve longstanding manageability problems.

It's important to note some of the downside arguments, to balance the rosy growth and customer acceptance scenarios we've discussed so far. The evolution of the outsourcing business from the pure commodity supplier of IT "bodies" to the provider of strategic infrastructure and application services has not been without its casualties. The rise and fall of the application service provider (ASP) marketplace provides a persuasive case study of the hazards of the outsourced IT services market. In 1999, IT analyst IDC predicted a worldwide ASP market worth $16 billion in 2002, and Forrester, another respected IT analysis firm, expected $21 billion by 2001. Dataquest forecast that the worldwide ASP market would reach $22.7 billion by 2003. In reality, the total ASP market accounted for a comparatively paltry $300 million in 1999, and by 2000 some of the largest entrants, such as the SAP/Intel joint venture Pandesic, were calling it quits, and others, such as USInternetworking, were losing

hundreds of millions of dollars. IDC has since scaled its 2002 revenue estimate for the ASP industry back to $2.4 billion. The Gartner Group has predicted that of the five hundred ASPs spun up in the last few years, only about sixty will remain by 2002. According to some Silicon Valley wise guys, the acronym "ASP" now stands for "Anyone Still Paying?"

From the beginning, there were doubters of the ASP gospel, citing the difficulty of the "one-app-fits-all" idea and the challenge of differentiating an "apps-on-tap" business. Security concerns, the need for customized applications, and the difficulty of making a profit in an expensive, service-intensive business—all of these factors bolstered ASP nonbelievers. The demise of their dot.com customers was another confirmation of the ASPs' vulnerability. Many ASPs saw huge revenue projections dissipate as their startup clients ran out of money and blew away. Pandesic, in its swan song, hit on the crux of the ASPs' difficulties; they cited "slower than anticipated market acceptance" and "no path to profitability." That deadly combination, combined with the gloomy environment that followed the bursting of the Internet bubble, has created an aura of skepticism around the ASP concept.

Still, many investors, analysts, and entrepreneurs believe that, as in many areas of the Internet, some unique and valuable companies will eventually crawl from the wreckage of the ASP market. In a perceptive report published by investment analysis firm Cherry Tree,[9] the lessons learned from the ASP rookie years are clearly stated: "Today, the proposition of merely offering hosted applications does not pull much weight with customers, analysts, or investors." The report goes on to state that "The companies that are building sustainable ASP business models are offering far more than hosted applications. Additional value-added components need to be offered in order to build long-term, strategic relationships with customers."

It's clear that there are no slam-dunks in the complex enterprise of outsourcing. I can attest from personal experience managing outsourced service relationships that they are very intimate, in that the client lets you into the inner workings of their business, and that intimacy can quickly lead to extreme strain if expectations are not met or unforeseen issues arise. Although there are clearly tremendous opportunities in this market space, there are also significant risks and uncertainties, as the demise of highly funded, "can't miss" ventures like Pandesic illustrate.[10]

Consulting and System Integration

The outsourcing business, as we've just explored, is all about economies of scale and process improvement, about streamlining and optimizing back-office functions and applying proven practices to operational activities. The consulting business, even though it's often lumped in with outsourcing as an IT service, couldn't be more different. Outsourcing is about doing repetitive and similar work more efficiently, while consulting is about seeing the unique and different circumstances and opportunities within each client. World class outsourcers try to see the similarities in every organization's IT structure so that they can gain economies and efficiencies through combining them, as in the ASP model, or in applying consistent processes to them. Consultants try to understand the differences in personality, culture, and corporate mission so that they can develop customized solutions that fit not only the technical needs of the client, but the cultural and organizational needs as well. Consulting and system integration are project-based disciplines, judged on the classic project metrics of scope, schedule, and budget, while outsourcing is an operational activity, judged by adherence to service levels and to ongoing economic efficiencies. Clearly these two IT services are distinctly different businesses, and the entrepreneur or manager responsible for growing these businesses must apply different skills and techniques, must build different types of teams with different skills, and must approach his or her marketplace and client in a different manner.

The IT consulting marketplace has a broad spectrum of competitors, from the single practitioner in a specialized niche to the giant global providers. We all have in common the need to develop trust relationships with our clients and the requirement to offer some specialized knowledge or experience that the client values. The best firms are masters of relationship marketing, building their firms not through mass marketing or advertising but one client at a time, through the famous "four Rs": *relationship, reputation, reference,* and *referral.* The consulting business as a whole, not just the IT component, has become the innovation and creativity engine for many firms. From the design of the corporate identity and logo, to the marketing campaigns and promotional programs, to competitive analysis and positioning, and including internal and external communications, press relations, and, most importantly, strategic direction, many firms have

delegated these responsibilities to their outside advisors rather than keeping them in-house. Many companies have discovered that partnering with specialists in the consulting world allows them to stick to their operational competencies. They can contract with the best and brightest minds in the marketplace to do the project-oriented work they need and then send the experts home when the project is done. This cycle of divesting inside expertise to rely on outside consultants is self-perpetuating, as the most talented people gravitate to the consulting firms, where they can experience multiple challenges in multiple industries throughout their careers, rather than being "stuck" in a single position for life. The consulting firm has become the employer of choice, as they are best suited for the mobility demands and the need for new challenges that motivate the modern workforce. This virtuous cycle also positions consulting firms to offer the best rewards and career opportunities to the talented practitioners, whether they're straight from the MBA program or from the ranks of experienced experts. As Tom Peters has said, "The professional services firms [PSFs] perform intellectually based services, own little in the way of hard assets, and deposit billions of dollars on the bottom line. Life in a PSF is about as far a cry from Dilbert Drones in DrearyVille as one can imagine."[11]

The same self-perpetuating virtuous cycle has played out in the world of IT consulting. Because the technology changes so quickly and impacts competitiveness so directly, many companies become extremely reliant on outside experts and advisors to keep them current with the latest operating system, network architecture, or business application. These advisors and their firms, in turn, become much more attractive to the IT professionals, who are driven as much by challenge and stimulation as they are by compensation and security. Because of the gravity they exert on the best minds and the intelligence and knowledge they gain from being engaged on the most challenging projects, the IT consulting firms become the repository of knowledge and experience that then are applied to other challenges and strategic opportunities.

What does all this have to do with building an IT consulting firm? Entrepreneurs who want to play in this arena of the IT services marketplace need to understand that this is a business driven by talent and knowledge, by experience and expertise. In a nutshell, true IT consulting firms must do three things extraordinarily well in order to rise to the top of this segment:

1. They must attract, hire, develop, and retain the best, most talented, and most productive consultants;
2. They must gather and manage the knowledge of these consultants and experts; and
3. They must develop lasting trust relationships with their clients.

These imperatives are easier said than done. Identifying, attracting, developing, and retaining talented practitioners, while a bit easier now that the Internet boom has gone bust, is still an extraordinarily challenging thing to do, for a couple of reasons. Unlike the "body-shop" type of IT services firm, consulting firms need to hire not just for technical expertise, but also for the less tangible, and less measurable, attributes of advisory skills, project skills, business context skills, and customer relationship skills. The immature, incommunicative or unpresentable technician who may be acceptable in a back-office outsourcing deal or a body-on-site engagement will never do in a consulting role. Finding, screening, and developing these unique individuals can become a consuming occupation for managers of consulting firms, and entrepreneurs considering this field must take this responsibility seriously. Many consulting firms have been sunk by their naïve belief that having the best technical talent is enough. In the one-on-one relationship-oriented world of professional consulting, it is not. Add to this the constant requirements to keep current on dynamically changing technology and to learn and understand new business applications of that technology, and the demands of building a consulting workforce loom large.

As the hype around the "knowledge management" buzzword should indicate, gaining control and ownership over the knowledge and expertise that reside in your consultants' heads is another huge challenge. Knowledge, previously considered a totally human attribute, has now become a commodity that supposedly can be captured, codified, and reused, rather than needing to be reinvented or ferreted out each time it's needed. I say "supposedly" because, despite all the hype, not many organizations have been successful at transferring their consultants' unique and specialized knowledge, experience, and understanding into any type of accessible system. Undeniably, the payoff is potentially great; not needing to reinvent the proposal, the scope of work, the methodology, or the technical delivery details for each engagement should present enormous opportunities for efficiencies and economies that could change the way professional services are delivered. Moving from concept

to execution, however, is the rub. How do you take human experience and knowledge and turn that into retrievable data? How do you motivate individuals to share their "secret sauce," the unique insights and experiences that make them valuable and irreplaceable? What type of system do you develop that understands what knowledge you're hoping to access and aids you in finding it? The race is on to answer these questions, and some firms have made great progress. To be competitive, entrepreneurs and managers must grapple with these questions.

Finally, the development of trust relationships is a talent that goes far beyond expertise or technical savvy. It encompasses human characteristics such as maturity, empathy, and simple likability. Creating the type of culture that enables, encourages, and rewards these behaviors and attributes is also part of the challenge of creating a consulting practice. Clients want to work with, and develop relationships with, folks they like and trust. The attributes of empathy, integrity, and honesty are not taught in any technical certification class; yet without them even the best technician will never add to the value of a consulting practice. Maturity and business sense develop over time and can be aided with thoughtful mentoring and coaching. The role of coach, in fact, is one of the most important roles an entrepreneur or manager in a consulting practice can play, as everyone, from the sales team to the consultant and including the accounting clerk and the person on the support desk, adds or detracts from the client's experience with the firm.

Custom Application Development

The application development market is another huge segment, with entrants from small web boutiques developing websites and eCommerce applications for local businesses all the way to the huge development teams at EDS, IBM, and their Big Five compatriots. According to the 1997 U.S. Economic Census, custom software development was a $38 billion industry, with over 31,000 firms participating.[12] The growth rate for the application development industry from 1997 through 2001 was a robust 12.8 percent, indicating that more and more companies are deciding to dispense with the expense and management overhead associated with running an in-house development function and are instead engaging outside application development shops when they need a new application. Only the largest or most specialized enterprises maintain an in-house programming capability today, as the cost-effectiveness of outside development has been proven to the satisfaction of most IT managers.

Application development is close to consulting on the IT services spectrum. Both require an intimate understanding of the client's business and culture, and both rely on trust relationships. They both are project-oriented disciplines that can only succeed if they adhere closely to the fundamentals of scope, budget, and schedule. They both benefit tremendously from the reuse of established knowledge. In the software world, entire programming languages and techniques have been developed specifically to encourage the reuse of functions and modules that have already been developed. Both are dependent on the talents of a team of specialists and on the team's ability to achieve results together.

There are some major differences as well. In many consulting engagements, the outcome is a strategic plan, a training program, a technology roadmap, or an even less tangible result such as good advice. In the world of application development, however, intangible deliverables are not acceptable—the client engages software developers to create an application for a specific use, to deliver specific functionality at a specific time for a specific cost. Robust project, quality, and risk management are important in the world of consulting and system integration; in the application development world, they are life and death issues. Although I'm a vigorous advocate of project disciplines in every IT services business, I must admit that I've seen successful consulting or system integration firms that rely on the technical expertise of their engineers and apply project management only in the most rudimentary form. They are successful because their technicians are so strong technically, so experienced and so dedicated that, even in the absence of robust project controls, they do what it takes to deliver a result.

This phenomenon does not exist in the world of application development. The demands for complexity, interoperability, and system interdependence just do not allow for ad hoc methods. Entrepreneurs considering entry into the world of application development must have a deep understanding of, or even a reverence for project discipline, for structured programming methods, and for the associated disciplines of risk management and quality control. As the Software Engineering Institute has noted, trying to build a software development capability before project management disciplines are in place is an exercise doomed to fail.[13]

The Software Engineering Institute is a good place to start our exploration of software development disciplines. The Software Engineering Institute is a federally funded project, sponsored by the Department of Defense and hosted by Carnegie Mellon University in Pittsburgh, Pennsylvania. The SEI's mission, according to

their website,[14] is to make software engineering more like other types of engineering: manageable, predictable, and subject to a set of practices and methods that allow software to be developed better, faster, and cheaper. The practical outcome of their work has been a series of techniques and methods that any IT organization can follow to ensure that it is applying the best and latest practices to the development of software. From an appraisal process that helps managers understand their current capabilities, to a detailed improvement plan, and including a set of step-by-step actions that firms can take to ensure that the quality of their software deliverables meet the highest standards, the SEI has delivered a roadmap for every software entrepreneur to follow. For those firms that decide to make application development their core offering, ignoring these models would be like ignoring the rules of physics when designing a spacecraft.

As an advisor, I'm always amazed to find that firms decide to take on a complex and competitive marketplace such as application development and then, either through lack of homework or sheer arrogance, believe they can disregard the established principles of good practice. I've encountered numerous firms that decided to get into the application development business either because the founder was a programmer who enjoyed developing software and thought she was good at it or because, after a perfunctory review, the entrepreneur decided that application development is "where the money is." These eager entrepreneurs then often go out and hire a bunch of "whiz kids" who know how to program, and then, after floundering for a few months, they call and ask my advice. After some questions about the factors that drove them to tackle the application development market, I'll ask about project management methodologies. "Are you following the PMI Body of Knowledge?" "Have you applied the SEI maturity models?" As you can probably guess, the response is typically a blank stare, or a response like the following: "I've got some really smart kids. My lead programmer, my neighbor's kid, built a website in high school that won a prize at the technology fair!"

Tremendous effort and study have gone into analyzing and systematizing the factors that lead to success in IT system and software development, and then those findings are consistently ignored by the managers and practitioners in the field. The number of books, studies, and models created, tested, and validated by organizations such as the Association for Computing Machinery, the SEI, the Institute for Software Testing, and many others is huge and growing, and the quality of their research is superior. Yet IT professionals, both inside companies as IT departments and as out-

side contractors, continue to cling to the old, unstructured and undisciplined methods. It's as if doctors could choose to ignore medical advances and decide instead to wave a chicken over a patient because it was just too much trouble to actually perform surgery. IT firms, over and over, ignore the tremendous advances in development theory and instead decide to run projects by the seat of their pants, simply because applying the project management and engineering disciplines is just too complicated. In the world of application development, this undisciplined approach is worse than immature—it's tantamount to malpractice. It's also damaging to our industry, as the general perception that both custom and off-the-shelf software is of inferior quality to other manufactured goods is widespread and has substantial basis in fact. So for entrepreneurs who are considering entering this marketplace, or for those who are currently competing in this market and want to grow their firms, my first advice is to study the established disciplines and apply them. They are proven, they work, and they are an absolute prerequisite to continued success.

Every element of these disciplines illustrates another set of implications for the entrepreneur entering the software business. The ability to develop a clear, unambiguous, and mutually accepted scope of work, at a detailed functional level, is an absolute prerequisite to building an application development practice. The implications of this imperative are deep, as it becomes clear that simply hiring good Java programmers won't cut it. Someone from the firm, either the programmers themselves or some representative from sales, management, or consulting, must be prepared to have a strategic conversation with the client to elicit the business needs driving the project. Someone must be able to uncover the needs of the users who'll sit in front of the screens or read the reports generated by the system under development. Study after study, from the Standish Group's CHAOS studies[15] to the project best practices work done by Dr. Bill Hetzel of the University of North Carolina[16] emphatically cites scope and requirements management as a critical success factor. The ability to dissect a scope into its component parts, so that a project plan and an estimated schedule can be developed, is another critical skill in this business. Philip Metzger, expert on application development and author of *Managing a Programming Project,* points out that poor planning is the source of problems in software development more often than any other problem.[17] This is not a skill that is inherent in talented programmers, pointing again to the need for IT services managers to recruit and hire for a mature set of skills and to create an atmosphere within the firm that encourages and enforces these techniques.

Other elements of the software disciplines, such as risk management and quality control, also illustrate interesting dilemmas when we examine them a bit. In my experience, both risk and quality turn out to have emotional baggage wrapped around them that make them more challenging then they might appear at first glance. Why are software engineers reluctant to talk about risk? First, the risk management disciplines are intimidating—they often look like calculus, with coefficients and probability calculations. Most importantly, the mention of risk often invokes an emotional reaction from software developers: "You mean you don't trust me to get this done?" Immature programmers are especially prone to this and will often respond to any attempts to apply discipline by bristling at the idea that you lack faith in their innate genius. Also, sales folks hate to mention risk because they think it will scare away the prospect. Efforts at testing and other quality control techniques often evoke the same response. It's our responsibility as managers of the development function to educate not just our clients, but also our teams, on the importance of risk and quality management and to assure them that these disciplines are not meant to impugn their talents or abilities.

Change control, another critical element of development discipline, can often get a negative reaction from the client. "Why are you so bureaucratic?" is a classic client response to a structured change management discipline, and so the temptation is to drop the discipline so as to appear "customer-focused." The problem, of course, is that unmanaged changes threaten the client as well as the IT services provider, and so we're not doing the client a favor by dropping them. Instead, we are probably putting their project at risk. This is another example of the fact that these disciplines require an education and reassurance effort, and it goes to illustrate that just pulling a methodology out of a book (or a Capability Maturity Model) is not enough. Entrepreneurs and managers need to evangelize, support, educate, train, and hire with these methods in mind in order to build a team that lives the discipline and so protects the firm, the clients, and the project at hand. These disciplines apply at all stages of the software development lifecycle. From the development of a project statement, to the creation of a scope of work document, and through the design, coding, testing, and quality assurance stages of a project, there are well-defined and well-understood standards and principles that have been proven to produce superior results. Now the question is simply: Do we have the self-control to apply them?

For entrepreneurs and managers considering an application development practice, the need to build an atmosphere, a team, and a methodology around these standard practices is the critical success factor. We'll discuss a lot of other factors that also influence success as we go further in developing a firm-building process.

COMMON ELEMENTS

This extended exercise in reviewing the segments of the IT services business will, I hope, lay the groundwork for much of our discussion to follow. As I've said, the IT services business is very different from other professional services businesses like accounting or law. While these types of firms may have specialties, the underlying activities they perform are basically similar. In our business, although we may call it all "IT Consulting," I hope this chapter has demonstrated that we are in fact discussing a group of fundamentally different businesses. There are, however, some common elements, and in the next chapter, we'll look at these components that IT services firms have in common, and we'll develop some general principles that apply to all firms providing IT services.

End Notes

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