



THE
BUSINESS-
ORIENTED
CIO

**A Guide to
Market-Driven
Management**

George Tillmann

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For Gloria

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Preface

The common knowledge of a profession often goes unrecorded in technical literature for two reasons: one need not preach commonplaces to the initiated, and one should not attempt to inform the uninitiated in publications they do not read.

—*Stephen Jay Gould*

Learning is not compulsory . . . neither is survival.

—*W. Edwards Deming*

Imagine that you are sitting across from a medical specialist who tells you that you have a rare and serious condition, the name of which you have never heard, and that you must undergo a dangerous operation, soon, if you are to survive. The rational patient would seek a second opinion, and perhaps even a third. The patient is not necessarily questioning the skill of the original physician. Rather, it is just good judgment to seek the opinion of and advice from more than one expert, especially when it concerns an area with which you are unfamiliar. Getting a second opinion can decrease nagging doubts.

Chief executive officers (CEOs) and business unit leaders rarely have the same option when it comes to information technology (IT). They can ask the opinion and advice of the head of IT, but they rarely have the opportunity to get a second opinion to decrease their nagging doubts. If IT were an unimportant backwater, then there would be little at stake. However, IT is becoming increasingly important to running a business. As the IT department increases in importance to the organization (be it a corporation, a nonprofit, or a government agency), the comfort level of senior management decreases in an inverse relationship.

Corporate and business unit executives live in a competitive world, where success or failure can be just a quarterly report to the shareholders away. Similar schedules and tensions exist in many nonprofit and government posts. As stressful as these senior positions might be, the angst associated with them is increased by their reliance on a function that is vital to their existence; expensive, and growing more costly each year; run by people of questionable education, ability, and business acumen; and involving a modern-day alchemy about which they have little knowledge and, perhaps, less interest. The result is a love-hate relationship that has nothing to do with technology or the people who manage it, but everything to do with an existential dependence on a function over which they have limited real power.

IT's status is rarely affirmed by the company's public displays of approval. There are parties when the sales department makes their quarterly numbers. Meeting or beating a production schedule can be a call for celebration for a manufacturer. Successfully running a disaster recovery test is not only a matter ignored by the business managers, but it might be one they never even knew occurred.

At times, IT seems to be a Cinderella-like stepdaughter: ignored when things go right, called on the carpet when they do not, always on the wrong end of the comment, "You should be more business-like." In fact, this seems to be the senior business manager's mantra regarding IT: Things not going well? Work on the technology. Things going well? Work on being more business-like.

Luckily, IT seems to be doing better on the technology front. Most IT organizations are getting a handle on the technology problems that disrupt service. With improved service, senior IT managers can focus on other issues. As technical staff and junior IT managers are left to keep the servers humming, senior IT managers are free to look more closely at that business-like thing.

How should IT act more business-like? What does that even mean? Where does one start? What, in fact, is wrong with what IT does now? Questions like these need professional help. Luckily, professional help is just a short drive away. One need only stroll into the mall or college bookstore to conclude that, if God had had an eight-day week, on the seventh day he would have created business self-help books. Bookstore shelves are awash with volumes of books telling businesspeople how to run successful and profitable enterprises. Not surprisingly, the business world is avidly reading these books. Forget that many of the authors are academics, who have never worked for a revenue-generating enterprise. Forget that the best companies to emulate in one decade are too often out of business in the next.

Moreover, these business knowledge pilgrims are right. There is good advice on those shelves. If managers are willing to invest a few evenings and Saturdays reading, they can obtain a wealth of knowledge that

can help them manufacture their products, move their inventory, and sell their goods, all while keeping staff and stakeholders happy. It is truly an intellectual gold mine.

However, it is not a very useful gold mine for IT. Those rows of business books are 99.9 percent for-profit oriented. The academics, the celebrity CEOs, the business talk show hosts, are writing for revenue-generating organizations, not for cost centers. Unfortunately, very little has been written on managing an overhead function. A few areas receive some attention. There are materials on chief financial officer (CFO) issues, but not nearly as much on running a finance organization. Call centers are popular in the literature, but not the staffing and the day-to-day problems you might encounter in running such a department.

There is really only one thing to do: If one is going to get some expert help on running a cost center, then overhead managers have to adapt the advice given to revenue generators. The chief information officer (CIO) will need to take the for-profit concept of customer satisfaction and fit it into IT's internal context of user satisfaction. Senior IT managers will need to modify supply chain management to accommodate IT's technology procurement. IT will have to take the best thinking, of the best minds, about running a for-profit business and apply it to a cost center.

FIRSTHAND EXPERIENCE

I know, firsthand, the problems IT managers face. I worked as a programmer, a systems analyst, a programming manager, a technical consultant, and, for two decades, as a management consultant for Booz Allen Hamilton Inc., the international management and technology consulting firm, before becoming Booz Allen's CIO. Over the years, I have visited or worked for nearly 100 IT organizations on five continents. I have seen the good, the bad, and the truly dreadful. One of my early consulting goals was to bring the best current business thinking to my clients. As mentioned earlier, I discovered that while there was considerable literature published on how to run a for-profit business, advice for the cost center manager was meager at best. To help my clients, I had to modify the best for-profit business thinking to make it relevant for my overhead clients.

After years of telling CIOs how to manage their organizations, I was asked to lead Booz Allen's internal IT group. Because the firm had more than 19,000 employees, in 100 offices on six continents, my very first overhead job was a challenge. I quickly became a consumer of my own consulting advice. Being a CIO also gave me an opportunity not only to apply what I had preached to others, but also to add, modify, and hone my message.

My contribution to this book is not brains, but experience, and not always my own experience, but information passed to me by dozens of

CIOs and senior IT managers on what has worked for them. What I present I know works because either I tried it, or I have seen others try it, and it worked. Although much of the advice is referenced and footnoted, this is far from an academic text. It is not a work for the ivory tower, but rather for the corporate trenches. It is also not for the hopeless or desperate. If an IT shop is a language translator away from being offshored, then this book will not help.

This book is written for the CIOs and senior IT managers who are doing an acceptable to decent job running an IT organization, but would like to do a little better. Most IT shops that I have encountered are in the middle state of doing well at providing infrastructure, fair at providing end-user services, and somewhere between less than stellar and miserable at customer service. My hope is to help the 80 percent of the shops where the computers hum, the lights blink, but the users, while not terribly unhappy, are nonetheless underwhelmed by IT.

This is a guide for the CIO who is seen by senior business managers (CEO, business unit leaders, etc.) as a nice guy or gal, but not necessarily one of them. They might call on the CIO to attend an executive committee meeting on budgeting, but would not think of calling him or her for a competitive strategy meeting.

The following should be thought of as a notebook of practical techniques that will help the moderately successful CIO improve (1) the services his or her shop offers; (2) the perception of IT, by the rest of the enterprise, as a valued member of the corporate family; and (3) the acceptance of IT managers and IT staff as valuable, and valued, corporate managers and staff.

DIVERSE IT AUDIENCE

CIOs are a diverse group. Aside from their short tenure, averaging between 24 and 30 months,¹ their backgrounds are quite different. Most CIOs come from the technology organization, although a growing minority come from the business side of the enterprise.² A few even come from legal, consulting, or academic backgrounds. An increasing number of technically trained senior IT managers have MBAs. Writing for such a varied group presents some fundamental problems, not the least of which is finding a common level of understanding of business concepts. As the quote from Stephen Jay Gould at the start of this preface states, “one need not preach commonplaces to the initiated, and one should not attempt to inform the uninitiated.”³ Gould’s warning is clear: Do not talk down to the knowledgeable in order to inform the neophyte, and do not try to educate the uninformed. Then again, Gould never had to write for CIOs. At the risk of satisfying nobody, this book attempts to inform the uninformed while engaging the engaged. Certainly an IT challenge all its own.

This book is divided into 11 chapters. It starts with the areas most comfortable to IT, and then goes into what will be, for most IT organizations, new territory.

Part One The Fundamentals

The first chapter examines the relationship between IT and the business—the good as well as the challenges. Subsequent chapters focus on how for-profit experience can supplement some of IT's current best practices.

Chapter 1: In Search of Overhead Heroes The CIO and the IT management team run a complex organization that, although it is an overhead function, is expected to perform like a business. Most CIOs successfully struggle to decrease the friction caused by the interaction between humans and machines, but many forget, or do not know how to deal with, the more destructive grating caused by trying to run an internal support function as a business.

Chapter 1 examines the end users' perception of IT and IT's perceptions of its internal customers. It also sets the stage for market-driven management, the approach of adapting for-profit best business practices for IT.

Chapter 2: IT Governance IT's users are confused about how IT decisions are made, who makes them, and how they can be influenced. IT governance is a program to make the major IT decision process transparent and responsive to IT's user base. The IT industry has made significant strides in governance over the past few years, but the for-profits can still help. Examining how business governance bodies, such as the board of directors, function can improve IT's governance effectiveness.

Chapter 3: IT Strategy and Planning IT needs to be keenly aware of where the business is going. It must also understand what IT needs to do in response to that business direction. Finally, IT has to ensure that all IT stakeholders know of, and are on board with, IT's approach. An IT strategy is an articulation of IT's response to the business strategy. It lays out what IT has to do, what it has to change, and what it should no longer do—to ensure that IT is ready when and where it is needed to support the business. The ancillary multiyear and annual plans and budgets fill out the IT strategy, providing the steps IT and the business need to take to realize both the business and IT strategies.

Chapter 4: Portfolio Management Projects are the result of the business deciding to invest in itself. However, in most organizations, the resources needed for the investments exceed the resources available. Portfolio management should be an open and equitable process that allows the business to evaluate and decide which investments to fund and which to reject.

IT might be the steward of portfolio management, but it is owned and executed by, and for, the business. Some business world techniques, such as investment selection, funding, and planning, can make portfolio management less onerous and more productive.

Part Two Learning from the Best

Proven business best practices, some familiar to IT, others completely new, can be successfully applied to IT organizations, resulting in both better services for IT's end users and better relations with senior business management.

Chapter 5: Customer Management IT is effective at managing assets and adequate at managing its own internal staff and processes, but disappointing when managing its internal customers. Yet, the for-profits consider customer management more important than the other two factors combined. This chapter presents some current business best-practice thinking on how to better understand customer needs, interpret their implications, and respond to them within the parameters established in IT's charter.

Chapter 6: Market Intelligence Given a choice between knowing all about employees or knowing all about competitors, the for-profit manager would always choose the latter. Being aware of customer expectations and how vendors respond to those expectations is worth its weight in gold. IT has some advantages over its for-profit peers because it can gain the information it needs from sources other than competitors. This chapter examines how IT can implement a simple program to learn what other IT organizations are doing, including competitors, and how well what they are doing works.

Chapter 7: Service-Offering Management In most IT organizations, users sit down with IT technicians to tell them what they need. Technology vendors employ product managers to tell their technical staff what customers need. Why the difference? Technology vendors are convinced that customers do not always know what they need. Customers might have an excellent understanding of the problem, but that does not mean that they are the best ones to define the solution. Product managers are used by vendors to represent the interests of the customer, examine and evaluate proposed solutions by technology staff, decide on how and who should provide the solution, and then measure its success. IT, with some effort, can do the same, creating service-offering managers whose job it is to determine customer need, analyze that need to understand its core components, request solutions from internal and/or external sources, and then pick the best provider to produce the solution.

Chapter 8: Performance Management IT does an excellent job of measuring the performance of its technology. It does a considerably less

effective job of measuring how well that same technology is meeting customer demand. Ask any for-profit manager, and he or she will say that one of the most important pieces of information a business manager can have is an understanding of how satisfied the customer is with the product or service offered. If satisfaction is not stellar, then the manager needs to know why and from where the dissatisfaction comes. IT collects considerable performance data about its technology, but very little about the end-user experience, yet the end-user experience ultimately determines IT's success or failure.

Part Three Pushing the Envelope

The for-profit world is no less dynamic than IT is. Some well-established concepts are just working their way into the business world. Other innovative business issues are just being investigated by academics and industry. All can have profound implications for IT.

Chapter 9: Organizational Competencies Knowing how to use the information gained from the for-profits is not always easy. Some for-profit techniques are invaluable, whereas others can lead IT in the wrong direction. This chapter examines how IT can understand its core competencies and use them to develop the core services that are critical to the enterprise, while differentiating itself from third-party competitors.

Chapter 10: In Search of Customer Service What is customer service? How do you measure it? What role does it play in the end-user experience? This chapter looks closely at service as understood and used by the academics, by business, and by customers. Weaving in the lessons gleaned from the previous chapters, service is reexamined, and the conclusions reapplied to explain some of the discrepancies and much of the disappointment surrounding customer service. Finally, its place in IT and the world of the for-profits is analyzed.

Chapter 11: Local Heroes The problems with fitting the lessons from this book and other IT self-help concepts, such as *running IT like a business*, into an IT organization are not new. This chapter presents best practices from IT organizations that have successfully implemented these or similar programs.

THE DESIRED RESULT

The goal of this book is not to make the IT department into a for-profit business. It is, however, to borrow from the for-profits all of the knowledge, lessons learned, techniques, and tricks that have made them successful and

that should help the average IT cost center run more effectively. The model is the successful technology vendor, which understands who its customers are, can articulate its customers' needs, and can provide the product or services to fulfill those needs.

George Tillmann
georgetillman@optonline.net

NOTES

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2. Edward Prewitt and Lorraine Cosgrove Ware, "The State of the CIO 2006," *CIO Magazine*, January 1, 2006. <http://www.cio.com/archive/010106/JAN1SOC.pdf>; and Lorraine Cosgrove Ware, "The State of the CIO 2003," *CIO Magazine*, March 23, 2003, <http://www2.cio.com/research/surveyreport.cfm?=54>.
3. Stephen Jay Gould, *The Structure of Evolutionary Theory*, Belknap Press of Harvard University Press, 2002, pp. 749–750.

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Last, but certainly not least, I want to thank my wife, Gloria, who provided the quiet encouragement that kept me going on what sometimes seemed a quixotic journey. Thanks to all of you.

PART ONE

THE FUNDAMENTALS

1

In Search of Overhead Heroes

A customer is the most important visitor in our premises. He is not dependent on us, we are dependent on him. He is not an interruption in our work, he is the purpose of it. He is not an outsider to our business, he is part of it. We are not doing him a favour by serving him, he is doing us a favour by giving us an opportunity to do so.

—*Mahatma Gandhi*

Politics would be a helluva good business if it weren't for the goddamned people.

—*Richard M. Nixon*

“Build a better mousetrap and the world will beat a path to your door,” is the often-quoted advice from the American man of letters and philosophy, Ralph Waldo Emerson. The message is that ingenuity and hard work are all one needs to succeed. Unfortunately, Emerson never said it, or at least never wrote it. It is reported that the closest Emerson ever came to the statement was in his *Journal*, published in 1855, where he said, “I trust a good deal to common fame, as we all must. If a man has good corn, or wood, or boards, or pigs to sell, or can make better chairs or knives, crucibles, or church organs, than anybody else, you will find a broad, hard-beaten road to his house, though it be in the woods.”¹

It was only years later, after Emerson's death, that Sarah Yule reported that she heard Emerson say, “If a man can write a better book, preach a better sermon, or make a better mousetrap, than his neighbor, though he builds his house in the woods, the world will make a beaten path to his door.”

Regardless of its origin, it is one of those culturally iconic quotes that define a country, a time, and a generation and then inspires other

countries, future times, and newer generations. It is a truth that all people who admire resourcefulness and persistence hold dear. Whether Emerson said it or not is unimportant. It is the message that is momentous. Except the message isn't true.

More than 4,400 mousetraps have been patented in the United States alone. There are no accurate figures for the number of patent requests rejected by the patent office or the number of devices never submitted for patent protection in the first place. One can easily imagine U.S. inventors creating 10,000 or more *Mus musculus* death machines during the past 150 years. Of those 4,400 patents granted, fewer than two dozen have ever earned their creators any money.²

Why? Well, there are two possible reasons. One, none of them was any good. The U.S. Patent Office has received patent requests for some very strange devices for exterminating mice. Most of them would eliminate mice, but the methods were often clumsy, complicated, or very, very messy. Even so, it is hard to believe that none of those thousands of devices were as good as the current snap trap created in 1899 by John Mast and patented in 1903.

The second, and more probable, reason why so few mousetrap inventors have been rewarded is that doing something better is not necessarily a formula for success. The 1970s saw the VHS/Betamax wars, where the two standards contended for the lion's share of the videocassette market. Technical experts agree that Betamax had the better technology, but VHS took the prize. Many software experts argue that over the past 20 years, the various versions of the Apple Macintosh operating system have been superior to those offered by Microsoft, but Microsoft's share of the personal computer operating system market is more than 20 times that of Apple. Being better does not mean you win. Put another way, having a better mousetrap might be a necessary condition for success, but it is not a sufficient condition. To succeed, you have to be more than good. You have to actively reach out and grab the market.

THE PROBLEM

From a corporate history perspective, information technology (IT) is relatively new. Accounting goes back more than 4,000 years, with modern accounting tracing its roots to the sixteenth century. Human resources (HR) had to exist in ancient times in order to entice freemen to work as rowers on the early Roman galley ships. Considerable recruiting skills would be needed to convince people to sign up for the job. (Slaves as rowers were introduced later when the job required less skill, and multiple rowers pulled oars.) IT's start is more modest, and whether you trace it to the 1950s, with the introduction of the first business computer, or go back a few decades to the first tabulating machines, it is still the new kid on the block.

However, IT is more than just new, it is also different—very different. In the early days of IT, the computer room was often behind floor-to-ceiling glass walls, just outside the corporate headquarters lobby, attended by a priesthood in white lab coats. IT was a symbol of the mystery and magic of the future—certainly not a compatriot of the eye-shaded office workers of the nineteenth century.

The irony is that the corporations IT was mesmerizing were run by those same nineteenth-century eye-shaded office workers, from the lowest clerks right up to the CEO. While they enjoyed taking off their eyeshades to gaze into the future, they just as quickly put them back on to get down to work. IT, while providing a captivating glimpse of tomorrow, was needed to work in the present, a challenge IT struggled to fulfill.

IT's story is one of success and disappointment. No other organization has brought so much change to the enterprise in so short a period of time. Its tale is not just one of efficiency and effectiveness, but one of possibility. Without IT, businesses would be limited in the number of customers they could serve, the number of transactions they could process, and the number and breadth of products and services they could offer. The modern corporation would not only be less efficient without IT, it could not exist. One would think that being the catalyst for all this change, IT would be a corporate hero. Unfortunately, too often, IT is seen unkindly by both its owners and its users.

Exactly how good or bad is IT? No one really knows. Trying to find an assessment of the state of the IT industry is difficult. A search of the academic literature is disappointing. Although there are many articles in scholarly journals about how to measure end-user satisfaction, few of them have done it. What has been studied is limited in geography or type of technology use (i.e., satisfaction with data warehouses, enterprise information systems, web searches, end-user computing interfaces). Even less attention has been paid to changes (positive or negative) over time, giving little indication as to whether things are getting better or worse. The trade press is no better at clearing up the confusion, because reports of IT's successes and failures are anecdotal, providing little data for any scientific analysis.

Vendors also are of little help in clarifying the situation. They readily cite improvements that can be attained if you use their product, but the numbers are often extravagant and unbelievable. Even credible numbers are rarely backed up by standard statistical methods. Longitudinal studies are either unobtainable or limited to before-and-after comparisons.

Surprisingly, the best source of available information about end-user satisfaction with IT comes from IT, and the story is not good. IT staff report that users are dissatisfied with IT, feeling that its services underperform, are overpriced, and are poorly supported. Development projects come in for even harsher criticism: They are viewed as consistently late, exorbitantly expensive, and functionally poor.

Business Concerns about IT

Chief information officers (CIOs), and other senior IT managers, have had a tough time over the past 40 years. Business expectations are high, while praise is low. In the late 1970s and early 1980s, IT was seen as the force that would radically change business for the better. E-commerce followed with an almost euphoric view of technology that bulged university computer science departments and sent IT wages soaring. In reality, if there has been any significant change over the past four decades, it is that user expectation is rising while user satisfaction is dropping. CIOs and industry analysts can legitimately argue that service is actually better than it was 20 years ago. Uptime is better, response time is shorter, and unexpected results are on the decline. Yet, if anything, users are less satisfied now than they were two decades ago. Why? Well the only potential reason can be creeping expectation. While IT might have been viewed as a novelty in 1970, it is now a critical component of the average business process. Outages that were understandable in 1980 are intolerable now. While a machine down for two hours in 1980 might cost the business little, a machine down for a similar amount of time now could result in the loss of millions of dollars in revenue.

There is another change between then and now. While IT was viewed as a laboratory science then, it is a business tool now. IT's elevation from lab experiment to business component is not without its downside. As white coats gave way to pinstripes, IT staff were expected to shift from being technologists to businesspeople. This transition is not without its difficulties. First, the chief executive officer (CEO) and the business unit heads are not of one mind on the transition. While they *want* IT to be a business component, in reality, they are still unsure and uncomfortable with its magic status. Despite the laptop on their desk or the family personal computer at home, many have little knowledge of, and less interest in, IT. Worse, as technology shifts from a business nice-to-have to a must-have, executives are uncomfortable understanding so little about something so pivotal. Most would rather wrestle with hostile takeovers than sit through a meeting on software installation.

Thus, the IT conundrum—IT, the unwanted and misunderstood stepchild, holds the future of the enterprise in its hands. But how can senior business managers allow the future of the company to fall into the hands of IT people, particularly when they have some serious concerns about IT? High costs and the realization that IT can make or break a business have led business managers to bring IT under greater scrutiny. Frequently, business managers feel that IT is:

- *Too expensive.* Whether IT is *too* expensive is debatable. What is not debatable is that IT *is* expensive. The average \$3 billion company will spend more than \$100 million annually on IT.³ At such levels, it is

unthinkable that IT would escape scrutiny in normal times and not be the subject of additional oversight in bad times, when corporate revenues are under pressure.

- *Not working on the right things.* Business managers have concerns about the quality of IT decision making. Are the right projects being funded? Why were some projects rejected? How are these decisions made? Who makes them? What can be done if a business unit feels that it is not getting its due?
- *Distributes services inequitably.* One of the most common criticisms of IT is that users feel that they pay and pay, but get little in return. They feel that IT is not fairly distributing resources to the business units commensurate with business need or contributions. Making matters worse, they suspect that competitors are getting more from their internal IT organizations for equal or less money. In short, they are convinced that IT resources are not equitably distributed throughout the organization.
- *Slow, expensive, and underperforming.* Users feel that IT projects are too expensive, functionally poor, and take longer than they should. Many feel that outside vendors could probably do a better job than the internal IT organization. There is data to support this belief. According to the Standish Group, more than half of the IT projects undertaken will experience cost overruns in excess of 180 percent. They also report that more than 30 percent of the projects will be cancelled before completion, while completed projects will only include about 42 percent of their proposed functionality.⁴ This is a dismal picture at best.
- *Poorly managed.* In the 1960s, senior managers were comfortable leaving IT to the technically inclined, for several reasons. First, it was not that expensive. IT cost, as a percentage of revenue, was relatively small. Second, the impact of IT on the business was minimal. For the most part, IT produced reports on work done, but did not do the work itself. If the machine failed, humans could usually take up the slack. Third, IT was usually under the direct control of the chief financial officer (CFO), a business unit leader, or some similar senior business manager. This gave corporate management the comfort of knowing that someone who knew the business and how to manage was in charge.

Today, this is often not the case. IT is now quite expensive and is routinely critical to the delivery of the enterprise's primary products and services. Another difference is that now, a technically trained CIO usually leads IT. Because of the cost and importance of IT, CIOs frequently sit at the executive table and are witnesses of, if not parties

to, the most senior business issues and decisions. In this exclusive club, the criterion for membership is not knowledge about technology, but business acumen. Many CIOs do not possess this quality. This shortfall is obvious to the other members of the management team and undercuts their confidence in the CIO. While some CEOs and management team members are willing, or at least resolved, to allow IT personnel to make some technical decisions, they are very uncomfortable with having the IT department affect the course of the business.

- *Out of touch with the business/market.* Although the phrase, “They just don’t understand the business,” has been used to describe virtually everyone outside of the business unit, IT has come under more than its share of criticism. There is often a level of truth to the charge. Many IT professionals work more for the IT profession than they do for their employer. You can see this in company hiring practices. If a manufacturing firm needs a network specialist, it is often comfortable hiring one who had previously worked at a bank or for a retailer. Even senior managers, such as CIOs, have been known to cross industries with ease. In the 1970s and 1980s, many firms were more comfortable

Why Do They Think Such Terrible Things About IT?

The ancient Greeks believed that the heavens were made of water. The water was kept from flooding the earth by a giant transparent sphere that covered the planet. Where do they come up with these ideas? Well, when people are trying to understand something, and real information about it is scarce or nonexistent, they tend to fill in the gaps with all sorts of strange explanations. Sea monsters devouring ships, witches casting spells to bring plagues down upon towns, people being sacrificed for rain or fertility, and a host of other strong-on-emotion and short-on-data interpretations of natural events come about.

The remedy is information. Discovering that the heavens are not made of water, that vermin and poor sanitation cause plague and disease, and that sacrificing children has no effect on the weather or fertility, brings about, if not more satisfying results, at least better-understood ones. The same is true for IT.

When even the brightest business managers are kept in the dark about the facts of a situation, their imaginations start churning. Why does IT cost so much? Why can’t we have our customer relationship application this year? Why did that other division get its supply chain management system when it contributes less to IT than we do? In almost all cases, the imaginings of end users are more dramatic than the realities of IT. Angst can be reduced by making a few facts available.

hiring CIOs from their hardware vendors than they were acquiring them from within or from competitors. This has led to a belief that the people making IT decisions for the business really do not understand the business. So how good could those decisions be?

- *A risk to the business.* From the enterprise perspective, there are two types of risks: loss of service and loss of a positive face to the market. The first risk is the rather traditional system-is-down syndrome, which has been known to cost companies millions of dollars in lost revenue and market capitalization. Fortunately, the loss is usually restricted to the time the system was not operating.

Loss of a positive face to the market, such as bad publicity or lost customer loyalty, can drive down sales for a protracted period of time. An example would be the damage to corporate reputations from the loss or theft of customer data. This latter type of risk could prove more expensive because it can have negative effects far into the future.

Business concerns about IT can be summarized into four areas:

1. *Efficiency.* Efficiency is typically defined as doing things in a way that minimizes the expenditure of time, resources, or effort.

IT's customers are concerned about IT's ability to manage corporate assets (technology), business investments (projects), and operations (processes). They point to rising operating costs without the associated rise in benefits, projects that cost more than planned, or projects that are delivered late while not providing the anticipated functionality.

2. *Effectiveness.* Effectiveness is usually defined as doing the right things to gain the right results.

Users are unsure that IT is heading in the right direction or in a direction congruent with corporate and business unit goals. They also question whether IT can perform the correct actions to produce the desired results. Ineffectiveness can sometimes be masked by efficiency, presenting the business with a false indicator that things are going well. The confusion can be summed up by Yogi Berra's quip, "We're lost, but we're making great time."

3. *Transparency.* Transparency is the level of openness of an organization. It is characterized by full and accurate disclosure of the policies, processes, participants, facts, issues, and decisions made by an organization.

Business managers are unsure of what IT is doing, why they are doing it, and how they are going about it. They do not know who is making the decisions that could significantly affect the business, or