

## PART ONE

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# COMING OF AGE

In 2006, global nominal domestic product grew 60% over the past decade to \$48.2 trillion, and over the same period global financial assets rose by 137% to \$167 trillion, before adjusting for inflation.

*Mckinsey Global Institute, Mapping Global Capital Markets:  
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Today's organizations reach beyond simple neighborhoods to around the world as a result of technology. Online sales and global distribution networks have exploded. This new age of complete integration carries both efficiencies and additional concerns. The concerns of respecting cultures and foreign business practices and adhering to unique governance and internal control requirements threaten the very efficiencies and the economies that nations rely on. This part analyzes the globalization of internal controls and how this interconnected world must be understood, acknowledged, and embraced in a universal fashion.

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# 1

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## Operating in an Interconnected Universe

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### Key Topics Addressed in This Chapter

Globalization: opportunities and challenges

Interlinked business functions and networks

Regulation, mandate, and activism

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### THE INTEGRATED UNIVERSE

Entire industries, societies, and newly developing cultures are being created and older ones are being integrated into the most elaborate, global, intertwined, and automated technological system that has ever been seen. The significance of these computing environments in every enterprise, company, government, association, and affiliation of every size cannot be exaggerated. Yet the technological environment within which this evolution is occurring has few, if any, structured or defined boundaries. For any enterprise to ensure operational effectiveness and efficiency in the future, much less to avoid lethal syndromes and mortal traumas, it is critical that, at the very least, the board of directors and senior management understand the importance and significance of information technology (IT) controls. This is as vital today as it was for boards and management to grasp accounting control concepts 50 to 100 years ago.

The intention of this book is to enlighten those with fiduciary or senior responsibilities for the enterprise on the impact of the technological relationships being established around the world and to provide overview and direction for the IT controls their enterprise should establish. Throughout nature a balance exists where virtually all species live their daily lives in a complementary arrangement that is supported by complex interrelationships

among plant, animal, and nature. These relationships are more prevalent than ever today, when nation-states share ownership with public companies, globalized supply chains, third-party sourcing, and virtual networks and when the customers and suppliers and partners of every organization vary by regional culture and separate legal protections.

### GLOBALIZATION

A world market exists in today's society and businesses. Businesses of all sizes are no longer selling or delivering services to clients in a specific region. The shrinking of the world and the newly available labor markets and consumers around the world extend the potential and challenge for every corporation.<sup>1</sup> In a world where a simple craftsperson may sell goods on eBay across the globe and extremely talented programmers are available from around the world on eLance.com, the reach and impact of online businesses is only just beginning to be felt. The availability of any and every mind from around the world to concentrate on a problem or to participate in a business transaction is both incredible and devastating to local economic supply-demand assumptions. The world will continue to evolve to adapt to these new global citizens, and technology will play a major part in this progression.

In principle, a local developer of a gadget or widget has a fixed market to service. This limitation may be the result of several factors: cost to transport, ability of the good to survive travel, and among other things the developer's ability to create sufficient items to support the market. Now consider the introduction of a medium that allowed a new market to become aware of the widget, its uses, and its benefits. Of course, the developer would see an influx of orders and after a point would have to expand the operations. If the product is time sensitive, the rational expansion would be to a place that is closer to the newest and largest set of consumers. With the right amount of technology, a small developer in New Delhi or Maybrook, New York, can become a multinational producer of goods in a blink of an eye.

Today digital media have allowed for massive commerce and the merging of minds from around the world for research and profit.<sup>2</sup> As the technology enables these activities to occur, the natural trend for organizations is to expand into the newly minted markets. Initially these expansions may occur by accident, as a result of the inquisitive consumer. Market forces that are actually *pulling* the company into new markets may be expanding beyond into a broader, more complex world. The implicit expansion of operations may occur regardless of a company's initial intentions, and the unintended consequences and profits must be considered.

In the new age of the Internet, where businesses can be developed in the quintessential garage and development and adoption of products can happen in weeks instead of months, it is important to recognize that these

digital companies face challenges similar to those of the incumbent international firms. Companies that build such things as search engines, social networking sites, online office suites, or simply online gaming platforms must also cross the cultural divide. This divide is no different from that experienced by companies producing physical devices, such as dishwashers or silicon chips. Despite the cultural and legal challenges, physical and digital producers have access to markets and resources that outweigh the risk and expense.

## **EMERGING MARKETS: IMPACTS OF INDIA AND CHINA**

The term *emerging markets* currently refers to powerhouses such as India and China and includes Eastern Europe, parts of Africa and Latin America, Brazil, Mexico, and Southeast Asia. The entrance of these nations into the global marketplace has a significant impact on resources, both natural and artificial. The world's natural resources are consumed just as artificial resources are, but with one exception: The artificial resources can be created anew to meet the demand. A discussion of the absorption of forest, oil, land, companies, equities, and human effort is best left to a different book with a different focus.<sup>3</sup>

By *artificial resources* I am referring to all technology deployed around the world and the complete representation of the complete online and offline network at once. Artificial resources are those created and implemented by countries, companies and independent groups. These resources are leveraged by the community at large in some fashion, and as more users enter into the community the existing resources must adapt to handle the increase in users. Inversely, the introduction of additional peers in this global community, using the artificial resources, naturally expands the reach, capacity, and knowledge of the community.

At the highest level, the nations of the world develop technologies and establish standards that allow for parties to communicate, collaborate, promote commerce, and maintain stability. The emphasis that nations place on their infrastructures directly benefits the citizens of that nation, but also become an asset to citizens elsewhere, including those in nations just emerging into the global technology community. The Internet, instituted with strict standards and an open model, allowed nonprofits, for-profits, governments, and individuals to add to the networked ecosystem.

The contributions of every company and individual have an additive effect on the whole community, which benefits from the introduction of additional peers in the environment. There is a tipping point throughout the community where improvements must occur to allow continued growth and elevate the experience. The entrance of billions of new peers into this community, such as from emerging markets, will challenge both the stability and the integrity of the Internet and in general the entire technology environment.

This is reinforced by projections from groups such as JupiterResearch, stating that an increase of 38 percent more people will actively use the Internet by 2011—that is roughly 22 percent of the world's population—or 1.4 billion people (using the current world population estimate).<sup>4</sup> The majority of these new users will be found in China, India, Brazil, and Russia.<sup>5</sup> The total effect of such a massive new user population will be muted if the network itself becomes exclusive and private, as is the case in some industries and communities that develop private or *dark networks*. A balance will be required where these networks either are developed on secondary networks not part of the public Internet, similar to leased lines and frame relay clouds, or are supported by priority processing through monetary perks paid to service providers.

The most immediate impacts will come from India and China, as the citizens, companies, and countries further rely on the Internet. The Internet will double and triple in size, complexity, information, and users over the next five years. The level of growth may be measured in several complex ways, but a simple way is to count the number of hostnames (systems/machines) online, which has grown nearly 400 percent over the past seven years.<sup>6</sup> The expected increase will impact the backbone infrastructure that businesses around the globe rely on for communication, commerce, and production. Beyond the dramatic increase in traffic, the reliance on the medium will become more essential. Even today international communications between parties and the near-real-time response times allow for individuals around the world to work and collaborate. So much of the global commerce and expansion is becoming reliant on this nascent global network that organizations, nations, and entrepreneurs must recognize the value and importance of this critical business platform.

## INTEGRATION

The focus on core business processes, only recently possible as a result of the evolution of business process management and a focus on mapping out these environments, has led to the increased reliance on third-party service providers, or *business process outsourcing* (BPO), for outsourcing efforts. Another reason this has occurred is that through advances in technology, it is now more efficient and cheaper to outsource almost all but a firm's core business capabilities. Ronald Coase, Nobel Prize winner from the University of Chicago, has stated that the cost of a good or service is actually more than the cost of the actual good itself: You must include transaction costs into the cost structure, including search costs, information cost, communication, keeping trade secrets, and bargaining.<sup>7</sup> Through technology it is cheaper to contract out services, but only so long as these services address all of the enterprise's obligations. The ability to satisfy these obligations becomes

expensive when rigorous compliance and controls are necessary. Today it is just as common to have outsourcing providers within the same country as it is to have them abroad. These service providers may provide consumer call centers, operate \$2 billion manufacturing facilities for microprocessor companies, or conduct biomedical research.

Horizontal integration encompasses the basic building blocks of a business. This type of integration allows for organizations to have more than a dozen companies providing support functions from around the world. These functions may include finance (processing payroll through ADP or Ceridian), infrastructure (technology hosting environments), development and acquisition (software development), and logistical operations (warehouses and order management with UPS or FedEx). These integrations have several impacts on today's organizations and indicate the future make-up of corporate structures. The result of these available partners is a vast reduction of barriers to entry for any given market, reduction of specialty roles in a company, elimination of duplication within expansive organizations, and institution of standards and processes.

Through the leveraging of technology, any organization may outsource, domestically or abroad, nearly every component of the business—except those that damage the firm's future competitiveness, such as intellectual property (even this is being challenged by protectionist stalwarts like Boeing).<sup>8</sup> The availability of a worldwide hiring pool has allowed companies to accomplish what was once available only to the select few. The combination of massive knowledge with near-instant communications has opened the door for billions of human resources. These resources are able to enter the market, because the barriers to entry have been eliminated and elevate the availability of substitutes. Michael Porter's analysis in *Competitive Strategy* resonates with the current shift in the marketplace. The availability of fiber-optic cables placed around the world allows for the consolidation of services, such as call centers, but more likely marketing- and knowledge-centric tasks. The aggregation of these services allows for economies of scale to be achieved at the most affordable rate. As a result of standardization on the Internet, any switching costs between providers (whether internally or externally) are being eliminated.

As the integration becomes more refined, organizations will seek less specialized roles within companies, similar to the reduction of duplicate staffing that occurs during a merger or acquisition. The integration of services with the world market allows for the reduction in physical devices, systems, processes, and people. This trend establishes how critical the infrastructure, both internal and external to the organization, becomes for every enterprise and individual.

The integration and expansion of organizations into foreign markets requires vigilant awareness and monitoring of the laws that govern the organization abroad. While there are efforts in place between nations to

reduce the complexity, an example would be the *safe-harbor provisions* between the United States and the European Union (EU); these are seldom complete nor broadly adoptable, given the conflicts between these laws, such as data privacy and IP concerns.<sup>9</sup> Beyond instituting appropriate controls to conform to the local laws where business occurs, other challenges arise with regard to copyright and intellectual property infringement. Regardless of the efforts of the internationally accepted World Intellectual Property Organization (WIPO), there are severe threats to organizations as a result of counterfeit goods, which amount to over \$600 billion a year in lost revenue to the rightful product owner.<sup>10</sup> Organizations should establish data custodians and ensure that only necessary portions of data are shared and that the data are appropriately protected to the fullest extent wherever they travel.

Threats that appear due to the increasing utilization of resources from around the world by integration are the same as those that exist in standard supply chain agreements, and organizations must seek to manage these efforts.<sup>11</sup> An organization is susceptible to breaks in service if the Internet backbone experiences a service disruption, similar to that which occurred in 2005 when two major Internet providers had disagreements over contracts that impacted millions of Internet users. There are also direct and indirect risks that should be considered, such as if the service provider becomes a competitor or the third-party service provider becomes mired in a dispute and your business is injured as a result. This occurred when a data warehouse company that hosted the systems of thousands of companies had a problem with a single company. The company was a spamming company that made its money by sending unsolicited e-mails to users around the world, and it became the target of disgruntled hackers. These hackers crippled the spammer's site along with every other business running off the hosting company's servers.

Organizations must be aware of the benefits, trends, and threats that are introduced through embracing technology and the extreme reach of resources it provides. Elaboration on controls for these situations will be addressed in the *principle* chapters in Part three.

## SEAMLESS SUPPLY CHAINS

Beyond the horizontal and vertical integration, another wave of change is the establishment of partnerships with clients. These partnerships allow for businesses to work more intimately through the linking of data networks. These linkages vary in sophistication and implementation, but the technology employed and the manner to secure this process are the same in nearly all cases. The linking of systems and teams allows for greater efficiencies, reduces the wasteful peaks and valleys in factories implementing *kaizen*, lowers cost of operations, and ensures that the relationship benefits from timely and correct data.<sup>12</sup>

Efficiencies are gained through the connection of technology environments in many industries and most demonstrably so with the retail and manufacturing industries. The world's largest retailer, Wal-Mart, with \$348 billion in worldwide sales,<sup>13</sup> has a close relationship with the suppliers that stock its shelves. As an item is checked out of a store, a computer system communicates the store location and product information to the manufacturer to ensure that the next shipment of goods includes the replacement of that specific product item. This tight relationship saves Wal-Mart by not wasting resources storing extra inventory, removes the work normally involved with orders to suppliers, and keeps the shelves fully stocked.

Permitting suppliers and production partners to have access to sales forecasts and actual sales data allows for the streamlining of manufacturing cycles. Factories may be able to adjust production and capacity to reflect the expected sales and reduce their overhead costs through elimination of unnecessary overtime or downtime. The availability of the data requires a level of partnership where both parties benefit beyond operating efficiencies, as the partner represents an extension of the company that exposes competitive data and must therefore be safeguarded—even against its own customers who may be competitors of the company.

## GOVERNMENTS GONE WILD

### Regulation Bubbles

During the boom, an individual would spend six months' salary on a single contract with the hopes that it would blossom into huge profits. This speculation continued and money was made hand-over-fist. That is, until the fundamentals around the contracts began to lose their mystique and investors began to understand the underpinnings of their investments. As a result of this transparency, the markets collapsed, investors were severely punished, companies languished, ripple effects spread to other portions of the region, and consequently economies were hurt by periods of recession.

This description is of the tulip mania that occurred in the Netherlands and the surrounding areas of Europe during the 1600s but is applicable to any period in history of bubbles or mania. Charles McKay does a great job of detailing these events in his book, *Extraordinary Popular Delusions and the Madness of Crowds*.<sup>14</sup> The South Sea, Mississippi, dot-com, and post-Enron-WorldCom-Tyco manias all experienced unsustainable levels of expectations of growth and returns. The eventual result of clarity with regard to earnings,

control environments, and operations led to market resets. In each case a cycle of regulations, designed passionately and emotionally, was enacted to prevent a repetition of the egregious acts that made these events infamous.

### **Regulatory Evolution**

The laws of society ebb and flow due to an enormous number of variables, but at a high level they are heavily influenced by the nature of the world, events that impact the citizens of a region, and the swing of the pendulum between open and close oversight. Given that the mandates imposed on companies change based on these dynamic forces, it may on the surface appear to be unmanageable for businesses to predict or reach a balance between these forces and the competitive marketplace within the organization.

In all societies, the political structures adjust to meet the current challenges. These challenges may involve a global threat or simply a need to instill financial structure in the markets to encourage a maturing of these industries. It is important to recognize that laws and mandates are placed in a reactionary and sometimes predictive fashion on businesses both local and foreign to a nation-state. Successful organizations lead and influence governments to shape the mandates in such a fashion that the regulations or mandates provide for the current needs (such as transparency to shareholders), which when developed by all participants will add value to corporations accretively. To that end, it is imperative that organizations proactively participate with domestic and international governance bodies to ensure that they are not caught with changing regulations that generate greater cost than benefit to society, the firm, governments, and stakeholders.

### **Regulatory Leakage**

The threat of unintended consequences is the biggest danger to businesses and the effectiveness of any regulations. These penalties may stem from unclear legislative language, inappropriate or changing interpretation of the laws, aggressive sales efforts, abuse, market-shifting interpretations, or simply a lack of knowledge of certain requirements. These unintended consequences are severe and confuse the benefits and intent of most regulatory efforts. A prime example in the United States is the Sarbanes-Oxley Act of 2002 (SOX) legislation.

The costs associated with SOX are due to excessive implementation of first-year compliance technology as both audit firms and corporations scaled the learning curve together. While the costs after year 1 show a definite reduction in fees and effort, what is not considered is costs of companies that are being forced to comply due to business competitive needs. These organizations are being required to adhere to and demonstrate mandates that, according to the law, do not apply. This forced compliance is not

the result of the legislators, the Securities and Exchange Commission (SEC), Public Company Accounting Oversight Board (PCAOB), or the audit firms. Instead, the forced compliance can be attributed to an effect where the legislative requirements trickle down to other companies in the supply chain. As we have already discovered, corporations and governments are intensely dependent and supportive of each other at many points of transaction and operation. This interwoven structure has required private, small, and foreign firms to adjust to the requirements outlined under SOX, which can be especially burdensome for small shops of under 100 persons and those that have cultural conflicts with the legislative requirements.

Regulatory leakage occurs as organizations partner and operate in markets that are foreign, whether they are abroad or simply in a different vertical market segmentation. The effect of regulatory leakage is greater control requirements for companies, which are potentially burdensome for start-up or smaller organizations. As a result of the leakage of laws, companies must fully evaluate every partnership, contract, and client relationship to ensure that all costs, risks, and opportunities to the business arrangement are made clear and provide a positive relationship to both parties.

### **The Rules are Changing**

A recent challenge for governing bodies around the world is the evolution of data transmission and storage, and fundamental shifts in operations of business. These shifts have affected many of the assumed protections that consumers, citizens, and governments perceive to be in place. The truth is that the majority of the laws in society were not prepared for the explosion of an online business or civil society. Criminal activities have migrated from the streets and back alleys to the digital frontier and can range from coordinated for-hire teams to self-replicating code designed to damage the world's communications networks, or simply a group of teenagers attempting to purchase items at Best Buy online for a penny.

New threats are also appearing that never concerned anyone due to implied or natural safeguards, such as the data being inaccessible, or nonexistent, or simply a lack of a market for such data and information. In general, identity theft, corporate espionage, and the sale of credit data are becoming the latest threats and headline grabbers of society. These are the start of a very long list of risks that are becoming known to both companies and governments. In fact, the most recent damages and threats that have surfaced used to be considered low-occurrence threats that were mitigated through absorption. Today society is shifting from risk absorption to a risk prevention posture, but at present it is reacting only as new threat vectors are discovered.

The impact of these illegal acts are both accelerating as more data are aggregated and distributed through computer networks, and escalating in

severity. The availability and aggregation of valuable data from all types of organizations increase the available targets for attackers. The severity of the digital threat is escalated due to the mature market that has developed around the exploitation of these systems. The initial annoyances of teenager script-kiddies have been replaced by sophisticated rings of criminal organizations out of Brazil, Russia, and terrorist organizations.

These ever-shifting teams have formed to create a community that has established an online marketplace for buying and selling pilfered information. Besides forming a marketplace, these organizations have teamed together to develop software attacks and exploits to use on their victims. An example is the development and distribution of comprehensive attack packages containing dozens of different attack modules that are able to exploit systems of varying types of security postures around the globe. The Gozi Trojan,<sup>15</sup> itself a single-instance configuration with a modular code base to allow for constant alterations, focuses on stealing user credentials and attacking online banking sites. It and custom attack packages are available for sale in the malware market. This represents a shift as attackers of systems have matured to focusing on high-value data targets with custom malware purchased online that possesses the ability to bypass antivirus, firewalls, and common consumer protection tools. A successful attack occurred in Sweden when such a package enabled attackers to gain access to hundreds of thousands of accounts before they were detected. It is only a matter of time before banks will be robbed online more frequently than with guns and fancy theatrics.

## **GLOBAL CITIZENRY**

The trend toward international openness in corporate operations and government environments is being driven by government legislation under the umbrella of improving the financial stability of markets, as found recently in Japan by the Financial Services Agency, “Financial Instruments and Exchange Law,”<sup>16</sup> and the EU. In addition to regulatory mandates to management attestations, the power of large institutional investors is continuing to demand and influence controls and management activities of companies. The simple fact is that as more corporations and persons conduct commerce internationally, each nation will expect the same levels of service, safeguards, and courtesy as those provided domestically by the company. This means that organizations cannot simply ignore any nation that lacks a specific law found in another country; control safeguards will become only more ubiquitous to an organization’s governance program. This absolute concept will only increase as organizations expand into further parts of the world.

### **Financial Stability of Market Mandates**

The regulatory environment found in most developed nations is strongly correlated to the level of international investment and the velocity of the cash flowing through their markets. This market stability allows for the creation and enhancement of wealth and innovations. The progression and sophistication of organizational controls required in these markets are severe in contrast to unregulated markets and industries, but there exists a consistency in the principles employed by nations and the oversight bodies that guide these markets. This concept of financial stability is increasing in importance, as new markets emerge into the financial arena and global investors are attracted.

Japan, South Korea, and China have begun a process to provide greater reliance on and trust in their financial markets<sup>17</sup> through the mandating of adherence to International Accounting Standards in some countries and the adoption of SOX-like laws that require management disclosures and third-party attestations. The effects of the maturation of these markets are broad and impactful for every organization and person around the globe. The effects of these additional regulations shall provide greater access to markets and capital for businesses. While only a single example of the benefits of such legislation, the mandates shall also impose greater restriction and demands on companies from around the world—similar to foreign companies being affected by the SEC's requirements for adherence to SOX within the U.S.

### **Stakeholders Scrutinize Operations**

A major focus of studies has been the increase in the retiring population popularly categorized as the *baby boomers* and the ever-increasing reliance on pension funds. The retirement funds of this giant population will be at their highest peak over the next dozen years, as these individuals shift from producing to consuming, and as a result gigantic funds have a need to invest in companies around the world. In addition, major foreign governments are investing in public entities worldwide. These two forces have accumulated large voting rights within mutual funds, public companies, and entire industries. As a result, these stakeholders have the ability to request, require, and enforce mandates on businesses. This stakeholder activism is akin to Carl Icahn and Ralph Whitworth's heavy influence on companies whose boards they reside on and own significant amount of company stock. The intention is to enhance shareholder value and allow for consistent generation of returns.

These stakeholders require a degree of transparency in the operations of the organization and flexibility. As a result, organizations must have complete awareness of internal operations and readily available data on request by these individuals. The advent of SOX and other international reporting

disclosure laws has introduced a level of clarity into the operations, risks, and control environments for organizations around the world.

These influencers may be large pension funds, such as The California Public Employees' Retirement System (CALPERS) fund, entire nations such as China, or private equity firms with billions of dollars under management. Regardless of the organization of these influencers, each is able to influence the position, operations, and risk tolerance of companies.

## **SUPERSIZED CHALLENGES**

### **Culture Clash and Resolution**

The expansion of operations introduces the need to respect the regional cultures and operating requirements set forth by such industry and governmental authorities. Adherence to these laws and guidelines is expected regardless of a business's intention to expand into markets abroad. A great example is how Yahoo! was forced to adjust the type of goods for sale on its Web site to each market. Initially the company simply offered the same global content to all consumers, but after allegations were brought forward that it was violating local laws, the company introduced numerous safeguards to ensure only appropriate goods were made available to citizens of each region. Specific examples include Yahoo! adjusting its storefronts to exclude Nazi material from French citizens,<sup>18</sup> Google modifying its data collection and sanitization efforts to comply with the EU's Data Privacy laws,<sup>19</sup> and Microsoft MSN Search placing filters or deleting content on its China portal to comply with government requests.<sup>20</sup>

Whether intentional or accidental, globalization brings business operations into foreign markets with new oversight requirements. These requirements are unique to the region and may involve controls and safeguards not necessary in other regions. The resulting global compliance requirements will continue to exist, and as the implications of technology operations expand, the amount of governmental and institutional oversight will increase. The ideal approach is one that embraces the requirements together with the businesses' activities and long-term vision. Only proactively will organizations positively contribute to societies abroad and continue to be welcomed into a variety of markets. In fact, by embracing and consistently applying safeguards and best practices around the world to all citizens, corporations will actually demonstrate that additional laws and regulations regarding enhanced disclosure and oversight are not needed.

### **Ripple Effects and Death Spirals**

In chaos theory, a popular statement is that a butterfly flapping its wings will kick off a series of events that causes a hurricane on the other side of the

planet. While the application of chaos theory is appropriate in nearly all aspects of nature and artificial human creations, the simplest approach to understanding how it contributes to IT internal controls is through demonstration and example.<sup>21</sup>

The explosion of growth in India and China has enhanced the opportunity for fraud, speculation, and incredible positive growth. Together these create motivators for persons both to advance within the system and to take advantage of it at the same time. The development and maturing of these environments follows the paths taken by other developed markets, such as the United Kingdom and France.

The existence of these perceptions of control and safeguards introduces a false sense of safety and a raw market where the participants, both company and investor, define what laws will be created. This is clearly seen across the globe when fraud occurs in immature markets that have not legislated schemes that were proven successful in other parts of the world. In fact, the perpetrators of these acts typically are seasoned professionals who have moved from restrictive markets into more trusting nations.

The effects of fraudsters, here defined as those who commit an action to take unfair advantage of another party, create a ripple effect throughout the international legal landscape. These ripples trickle into every company that participates in each market. The negative effects of companies not adhering to best practice controls for all markets follow a sequence where each market creates duplicate laws to apply to its markets and fit its cultures. Unfortunately, the current trend of each emerging market exchange and oversight body is to create similar but not consistent laws of other nations that result in a regional patchwork of legislation that is incomplete when compared to other mature markets and alien to the culture.

### **Liability and Accountability**

The integration trend with business processing centers introduces several complexities to the assurance of internal controls. These concerns result from the sharing of services, staff, and systems with other companies and potential competitors. At risk are the level of safeguards placed on the shared assets, which may not adhere to the company's internal practices. For example, internally the company may encrypt all data, but at the processor it may reside unencrypted, violating both company policy and exposing the organization to fines and consumers to damages. Such situations destroy/decrease the firm's value.

The absence of legislative and judicial laws that protect business IP is a serious risk to organizations that outsource. These concerns may be addressed with the direct outsourcing companies, but too often services are sourced several times over and the legal agreements or moral restrictions established through a personal, close-knit relationship are lost or not relevant. In addition, in other regions, concerns over privacy, confidentiality,

and trademarks may be perceived differently and therefore handled in a less appropriate fashion. The originator of the information is responsible for ensuring that data or IP processing is done in accordance with the laws and expectations of the originator and the originator's customers.

## SUMMARY

The connectedness of systems with clients and partners must be done with careful regard to the threats that may be introduced to the organization. The organization must be completely aware of how the systems are being connected and the scope of the permissions being granted to both parties. Beyond the accidental release of confidential pricing or patent information, the organization may simply expose itself to technology-based threats, such as viruses and worms, through these connections. Other threats may appear based on the type of customers the client works for; malicious attackers or poorly monitored environments may expose the company to collateral damage. These threats can impact the organization materially, and depending on the source and contractual requirements, they may introduce punitive damages to the parties responsible.

## ENDNOTES

1. Thomas Friedman, *The World Is Flat* (New York: Farrar, Straus and Giroux, 2005).
2. Estimated U.S. retail sales as of August 2007 for the second quarter as recorded by the U.S. Census Bureau are \$33,645 billion. URL: [www.census.gov/mrts/www/data/html/07Q2.html](http://www.census.gov/mrts/www/data/html/07Q2.html).
3. Robert A. Ristinen and Jack P. Kraushaar, *Energy and the Environment*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2005).
4. U.S. World Census Population Clock. As of August 28, 2007, the site estimates there are 6,614,749,919 people. URL: [www.census.gov/ipc/www/popclockworld.html](http://www.census.gov/ipc/www/popclockworld.html).
5. Sehgal Vikram, "Worldwide Online Population Forecast, 2006–2011, "Emerging Economies Catalyze Future Growth," June 21, 2007. URL: <http://www.jupiterresearch.com/bin/item.pl/research:concept/75/id=99411/>
6. Netcraft: Web Server Survey Archives (August 2007). The Web Server Survey found 127,961,479 sites versus 25,600,000, which equates to 400 percent rounded up. URL: [http://news.netcraft.com/archives/web\\_server\\_survey.html](http://news.netcraft.com/archives/web_server_survey.html).
7. Ronald Coase, *The Nature of the Firm* (1937), *Economica*, New Series, Vol. 4, No. 16 (Nov. 1937), pp. 386-405. URL: <http://links.jstor.org/sici?sici=0013-0427%28193711%292%3A4%3A16%3C386%3ATNOTF%3E2.0.CO%3B2-B&size=SMALL&origin=JSTOR-reducePage>.

8. Boeing outsourced nearly 70 percent of the development of the 787 Dreamliner, the first time the firm has ever utilized so many offshore firms and exposed the manufacturing process. URL: [www.businessweek.com/magazine/content/06\\_05/b3969417.htm](http://www.businessweek.com/magazine/content/06_05/b3969417.htm).

9. Joel R. Reidenberg, "Resolving Conflicting International Data Privacy Rules in Cyberspace," *Stanford Law Review* 52, no. 5 (May 2000), pp. 1315–1371.

10. Fraud is estimated at a global scale for counterfeit goods to approximately be 5 to 7% of world trade, resulting in losses between \$500 billion and \$600 billion, according to the Association of Certified Fraud Examiners, WIPO, and government organizations. ACFE, "Report to the Nation 2006," URL: <http://www.acfe.com/fraud/report.asp>. WIPO—World Intellectual Property Organization, URL: [www.wipo.int](http://www.wipo.int).

11. Michael Hugos, *Essentials of Supply Chain Management* (Hoboken, NJ: John Wiley & Sons, 2007), provides wonderful examples and detailed approaches to managing the global threats to organizations operating at a global scale.

12. Ibid.

13. Pulled from Wal-Mart 2007 annual revenues financial statements made available on EdgarScan. Wal-Mart Investors Resource Page: URL: <http://investor.walmartstores.com/p/uoenix.zhtml?c=112761&p=irol-irhome>.

14. Charles McKay, "Extraordinary Popular Delusions and the Madness of Crowds," 1842.

15. Gozi Trojan was a Russian attack program that spread through Microsoft's Internet Explorer. Greater details are provided on SANS Web site: URL: <http://isc.sans.org/diary.html?storyid=2498&rss>.

16. Financial Services Agency (FSA) of the Japan Government, URL: <http://www.fsa.go.jp/en/policy/fiel/index.html>.

17. Government efforts toward financial stability include Japan's Financial Instruments and Exchange Law, the Hong Kong Exchange's Code on Corporate Governance Practices, and the U.S. Public Company Accounting Reform and Investor Protection Act of 2002.

18. France ruled against Yahoo! to ban Internet Nazi auctions: URL: <http://news.bbc.co.uk/2/hi/europe/760782.stm>.

19. Google reduced the period that it retains user data from a maximum of 24 months to a maximum of 18 months to resolve concerns by an EU-appointed working party, the Article 29 Data Protection Working Party. URL: [www.epic.org/privacy/ftc/google/gres\\_a29\\_061007.pdf](http://www.epic.org/privacy/ftc/google/gres_a29_061007.pdf).

20. The Microsoft Encarta Encyclopedia article highlights filtering and blog-post deletion per request of government agencies. URL: [http://encarta.msn.com/encyclopedia\\_761582857/Search\\_Engine.html](http://encarta.msn.com/encyclopedia_761582857/Search_Engine.html).

21. James Gleick, *Chaos: Making a New Science* (New York: Penguin, 1988).

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