5

Find the Sources of New Value

At root, IT organizations have two basic levers at their disposal for creating value. They can improve decision making by improving information quality or timeliness, or they can increase efficiency, quality, and functionality by improving processes.

By adding a dimension that represents the reach of the mechanisms by which information or automation is provided—the scope of the audience, inside and outside the enterprise, that is touched in some way by IT-supported change—we produce figure 5-1, which represents the full range of approaches IT can apply to improve business differentiation and competitiveness.

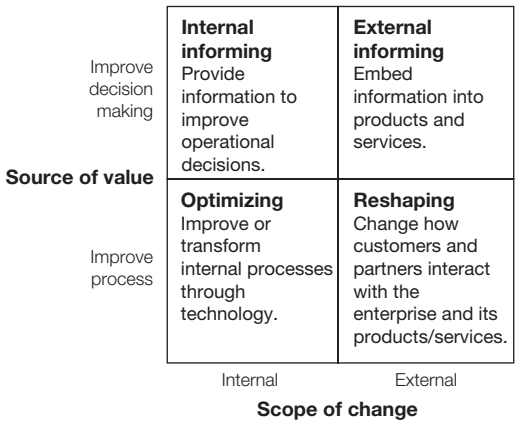
In any business, the IT organization might have opportunities to make important contributions to business performance in more than one of these ways. In fact, we often see that initiatives beginning in one quadrant enable others as improvements in information and processes create a stable, highly functional platform for further change.

For example, DKSH is the world's leading market expansion services provider, with $8 billion in sales in 2008. The company is based in Switzerland but has focused on Asia for almost 150 years.

FIGURE 5-1

Four sources of new value from IT

IT can improve business performance in four ways, and all are high value.



DKSH has four business units—Consumer Goods, Healthcare, Performance Materials, and Technology—through which it offers sourcing, sales, marketing, distribution, and logistics services. In 2005 the company implemented new distribution center processes and technology supported by SAP systems, an optimization initiative aimed at the company's operational performance as a logistics provider. Soon afterward, senior executive VP of operations and business support Gonpo Tsering realized that the company's new IT platform and global scope provided it with proprietary regional sales information that was of great value to customers. DKSH could apply external informing to offer customers summarized sales and market trend information along with its shipping services. For example, it could tell a mom-and-pop corner store retailer in Shanghai that he should order a particular brand of chewing gum, because sales of the brand were increasing steadily and moving up the coast of China on a trend line that would take it to Shanghai in a matter of weeks. DKSH became in effect a supplier of business intelligence to its customers as well as a logistics company, increasing the company's

The four sources model: How IT improves business performance

- *Optimizing:* Processes internal to the company are improved or transformed through automation. Though optimizing is typically about incremental process improvements, it can also include actions that replace whole sets of applications and processes.
- *Reshaping:* Automation is used to change how customers and partners interact with the enterprise, how they work with the enterprise's products and services, or the levels and kinds of service provided. These may be large, such as integrating the global supply chain, or smaller, such as providing customers with self-service features they formerly had to request through a salesperson or call center.
- *Internal informing:* Information is supplied to internal audiences to support decision making related to specific operational issues. Resulting performance improvements may be visible to external parties such as customers and suppliers, but the information itself typically is not.
- *External informing*: Information is supplied directly to external parties, such as customers and suppliers, to enhance or change the enterprise's value proposition, relationships, or operations.

value proposition to customers large and small and changing its strategic positioning.[1]

Similarly, Career Education Corporation, the fastest-growing company in the adult education industry, conducted an optimization initiative in 2001 to replace dozens of administrative systems—the legacy of a growth-by-acquisition strategy—with a single consolidated system. The information available from the consolidated system created internal and external informing

opportunities: to dramatically improve the speed and accuracy of managerial decision making about class enrollments, attendance, and student loans, to better target profitable locations for new schools, and to provide enrollees and students with up-to-date information about courses, grades, and loans.[2]

When opportunities are identified, explore the sources of new IT value

Although much of the effort of your IT unit is spent meeting requests from the various stakeholders in your enterprise, simply taking orders is a value trap. CIOs who provide high value to their enterprises do more than take orders. They help shape stakeholder requests into forms that are more valuable for the enterprise. And they suggest new initiatives that provide value well beyond what the other stakeholders can suggest.

Once you have identified strategic issues and opportunities, as described in chapter 4, you are in a position to shape new initiatives. The *four sources model* is a useful framework for this purpose.

Let's look at each of the four sources of new IT value in turn.

Optimizing

Optimizing opportunities revolve around using IT to streamline processes through automation or consolidation. For example, at Intel, maintenance technicians had to move from machinery to a green screen and back again while doing their work. Intel's IT team developed a single handheld device to reduce the time and effort involved in this maintenance. The mobile device combined numerous green screen applications on a single mobile interface, streamlining the workflow for technicians and improving equipment uptime. Other optimizing opportunities may exist in automating manual processes (or process steps), eliminating steps in a process, providing automated help for manual tasks, or replacing multiple legacy systems with a new streamlined platform.

To explore optimizing opportunities, ask these questions:

- What are the processes that contribute to the key operational performance metrics for the enterprise?
- What are the major steps in those processes? Who are the key personnel and functions involved in each of those steps?
- How do cycle times and efficiency measures for those processes compare with similar processes elsewhere in the enterprise or in other enterprises?
- What are the most important obstacles those personnel face?
- Can we automate one or more specific capabilities for those personnel that will reduce or eliminate one or more of those obstacles?
- Can we improve the process by eliminating process steps or making process steps easier?
- Given the enterprise's goals for growth in revenues or profits and the implied performance requirements, what new capabilities could we introduce to the enterprise by improving or consolidating existing information systems and business processes?

The people best placed to ask and answer these questions are the personnel involved in a process and the IT personnel who directly support them. Indeed, one sure way to generate optimizing ideas is to embed IT personnel physically in the business units they support.

Reshaping

Reshaping opportunities improve business performance by changing the way customers and suppliers interact with the enterprise and its products or services. Reshaping may include reducing costs

by off-loading internal processes to external parties, such as offering customers a self-service capability. Other reshaping activities include making process interactions easier across the enterprise's boundaries; making it easier for customers to work with the enterprise; or supporting the enterprise in working with other enterprises. Wal-Mart's supply chain initiatives, for example, make Wal-Mart's processes more efficient by requiring suppliers to use standard processes.

To identify reshaping opportunities, ask these questions:

- What are the pain points in the way our processes work with parties outside the enterprise?
- How can we make it easier to do business with the enterprise?
- How can we improve our processes by changing the way we work with external parties?
- How can we make ourselves more valuable to those other parties by improving *their* processes?
- Consistent with the broad strategic objectives and performance requirements of the enterprise, what new ways can we use to get customers or partners more engaged in working with our enterprise?

Many reshaping opportunities are identified in a similar way to optimizing opportunities but involve external as well as internal stakeholders. Especially in business process outsourcing relationships and other high-level partnerships, IT plays an important role in the customer's operations, and the CIO works closely with customers. Bud Mathaisel, in his role as CIO and chief process officer at Solectron, dedicated a percentage of his time to meet with customers and suppliers so they could improve collaboration. Ideas come from any source, in fact, that sheds light on how the business and its customers engage, including business analysts, relationship managers, customer service specialists, business unit and enterprise executives, or customers and suppliers themselves.

Like optimization, reshaping often involves extensive business process reengineering. It can be more difficult than optimization, however, when it involves changing processes that are shared with multiple organizations.

Internal informing

Internal informing opportunities arise when IT provides information that enterprise employees can use to improve their own performance. The Boston Red Sox credit an innovative application of information to hiring and coaching decisions with helping the professional baseball club win its first World Series in eighty-six years. CapitalOne places information in the hands of its marketing personnel, along with easy-to-use tools, so that they can conduct thousands of experiments each year selling new credit products to various customer segments.

As the examples show, internal informing isn't about blindly firing information at the enterprise in the hopes that someone will be able to use it. Rather, it's about identifying who will use specific information for a specific purpose with a specific outcome. To identify opportunities for internal informing, ask these questions.

- What do specific executives or roles in our organization—names or titles—want to know that they don't know now?
- What questions will those people answer when they get the information?
- What actions will they take when the questions are answered?
- What changes in capabilities and outcomes will result?
  - Will cycle times for key decisions change, with impacts on costs, risks, or revenues?
  - Will errors be reduced or quality otherwise enhanced?

  - Will customers perceive a difference in responsiveness or quality?
  - Will investment decisions be more accurate, producing increased yields or lower risks?
  - Will some other observable outcome result?
- What information does our enterprise gather that is not used well by other processes? What other processes could use that knowledge?
- Which processes rely on standard operating procedure (SOP) or intuitive judgments when better decisions could be made with better information?
- Which processes that use dated or unintegrated data could be improved with real-time, integrated information?

Questions such as these are often best answered by the executives in charge of particular business units and (as always) by the IT relationship managers assigned to the business unit. In many cases, executives also have people on their staffs whose responsibility is to know and understand the numbers that are driving the business. Those staff members may not have exalted titles, but often they wield significant influence as trusted advisers. We have seen cases in which such personnel, when asked about the value of a particular piece of information, instantly recited a hard dollar estimate supported by a detailed and accurate rationale.

"A lot of us have learned that if you try to work forwards from the technology, you get a lot of failures. But if you start with the decisions, and talk about what information, with what timing, is essential, it works."[3]

—Guido Sacchi, CEO, Moneta Corporation (former CIO, CompuCredit)

External informing

External informing is a powerful source of value that few firms have found ways to harness. By providing customers and suppliers with information that other enterprises cannot provide, you cement tighter relationships with those external parties, providing value that goes well beyond the products and services they buy. Here are examples:

- Progressive Insurance provides information on competitors' prices as well as its own, helping customers feel more confident when selecting Progressive as an insurer.
- Consumer packaged goods enterprises such as Procter & Gamble provide retailers with sales data by stock keeping unit (SKU), allowing them to better understand purchasing patterns in their stores.
- Auto manufacturers provide information about future products and production plans to their networks of suppliers, allowing suppliers to bid on new work, suggest new component designs, or adjust their own product plans.
- When an IT security incident affects a Symantec customer, the company notifies other customers running similar software that they may have a vulnerability.
- Financial services companies provide customers with information on their overall portfolios as well as the performance of products they do not own, allowing customers to understand how their portfolio performance matches benchmarks and how they can adjust their assets appropriately.

To identify opportunities for *external informing*, ask these questions:

- What are the outcomes that customers seek when they use our (or competitors') products and services?

- What outcomes do partners or other external stakeholders seek when dealing with us?
- What does the customer or partner need to know to get that outcome? Do we, or anyone else, supply that information? If not, can we?
- What information do we already have that others would consider valuable for their decision making?
- Can we embed information directly into our product as a functional capability or a decision aid? Can we provide it through our value network?

As with reshaping opportunities, questions such as these might be answered by a wide range of personnel, from customers themselves to anyone in the enterprise whose role involves frequent contact with customers and other external stakeholders.

No matter where an idea comes from, it must be analyzed further to determine its impact on business performance, both in operational improvements and in the impact on profit and loss (P&L). In chapter 6 we discuss assessment of investment opportunities in more detail.

No single approach is the right one for all enterprises at all times

The four sources of IT value do not represent a maturity model, in which the highest level is presumed to be the most desirable. None of these approaches is intrinsically of higher value than the others. External initiatives are not somehow better because they move beyond the boundaries of the enterprise. And decision-making improvements are not superior to process improvements just because the former often helps managers instead of lower-level employees. Any of the four approaches to adding value via

IT might be the right one for a specific enterprise at a specific time. Furthermore, an initiative in one quadrant can be the foundation for many opportunities in the same or different quadrants.

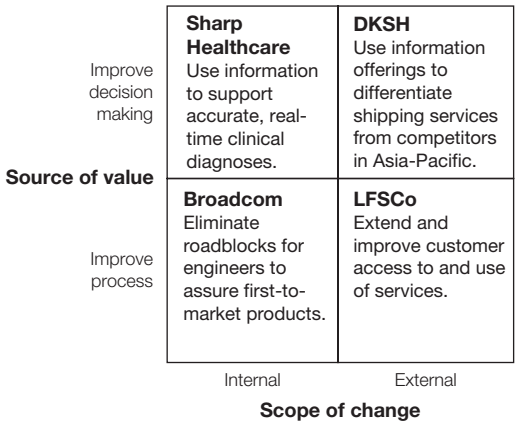
CIOs should strive to help the business get the focus it needs to use the right approach, keeping in mind that the CIO in most cases will serve as an agent of change and not the sponsor. We have selected several cases involving CIOs who work in such focused businesses, each of which illustrates one or more of the four approaches to delivering value via IT.

- *Optimizing:* Broadcom's executive team wants its IT to be "like air"—the unseen environment that makes everything else work. Accordingly, Broadcom's IT team focuses tactically on removing obstacles to effective performance for Broadcom's engineers and designers so that they can work faster and more effectively to bring exciting products to market more quickly than competitors.
- *Internal informing:* Sharp Healthcare uses information to assist clinical workers in diagnosis and treatment, improving quality and cost of service through information dynamics.
- *Reshaping*: LFSCo (a pseudonym for a large financial services company) powers growth by continuously extending and improving the way customers use its services.
- *External informing:* DKSH uses IT strategically, embedding information of critical importance to its customers in its offerings as a way to differentiate its services from those of its competitors in the Asia-Pacific region.

These companies, and the ways they have used IT to increase competitive differentiation, are illustrated in figure 5-2. Although each serves as an example of one of the four quadrants, you'll notice in their stories that each success led to additional opportunities in another quadrant. The ability to deliver more value

FIGURE 5-2

Use IT to deliver the right value for the enterprise



comes from the trust and credibility built by delivering on prior value. The stories behind these companies and their CIOs follow.

Broadcom: Optimizing makes IT "like air"

Broadcom, founded in 1991, is one of the largest fabless semiconductor companies in the world, creating chips and software for wired and wireless communications. Its customers include Cisco, Nortel, and Motorola, and the company's market leadership discipline is product development. The company had sales of $3.67 billion at the end of 2006, when we first spoke to senior VP and CIO Ken Venner; sales grew to $4.66 billion in 2008.

Broadcom is an example of how IT can improve business performance and competitiveness dramatically, even when the technology or information delivered by the IT team is not an explicit component of the company's products or services. What makes IT a competitive weapon for Broadcom is a clear understanding by everyone of exactly how the company competes: via rapid development of outstanding products using superior partnerships.

Ken Venner came to the company as a turnaround CIO in 2000. Initially Venner focused on fixing IT's performance—delivering value for money. "First, I hired really great, really smart people," says Venner. "I focused on enabling the [internal Broadcom] customer to do what they need to do. I put the IT people in with their customers. We defined the 80 percent of the routine stuff that IT people do as processes, so we could minimize the time and effort. And then we marketed it all like crazy, so people knew what we were doing and wanted to engage us."[4]

With value for money coming into focus, Venner looked for opportunities to optimize performance for the engineers who create Broadcom's products. "What differentiates us [IT] is that we highly tune our environment for our engineering community," says Venner. "We deliver all the infrastructure and tools that they use for product design, delivery, and supply chain functionality. Our applications deeply focus on how our engineers work seamlessly around the world. The heads of engineering and I look at blocks of engineering effort, aiming to reduce the time from concept to finished product." Measurement of IT's contribution to this metric is not precise: "I know we've increased our first-to-market performance, but we have not correlated that to IT spend." Nevertheless, reductions in overall product development cycle time clearly benefit from IT's contribution, and management sees the investment in those terms.

Optimizing was not the only avenue to business value for Broadcom IT. Broadcom advances its market share through strategic partnerships with the top two or three original equipment manufacturers in attractive industry segments. Partnerships are improved by internal optimizing activities as well as by specific reshaping approaches. Broadcom's initiatives as of 2006 included a supply chain collaboration with a large customer that required business process and IT changes. Value was framed in two ways: gaining access to a strategic market via the customer, and gaining new revenues from that customer. "The business immediately saw the opportunity for this large customer to become part of our supply chain ecosystem," says Venner.

Broadcom's IT value at a glance

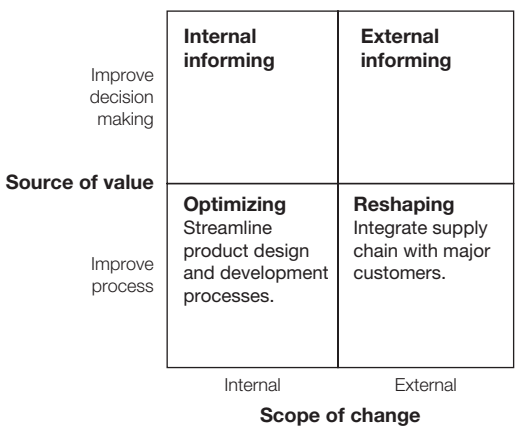
- *Key business outcomes:* High product quality, rapid product development and time to market, strong relationships with key OEMs
- *IT focus: Optimization to* remove tactical obstacles to engineering staff and reshaping to enable strategic partnerships

"Responsibility for delivering the benefits was shared between the business and IT."

He adds, "Being able to play with numbers one, two, and three in any market is a potent metric for our entire executive team. It means having the highest quality and the fastest time to market. Our potential partners ask us for core IT capabilities around collaborative communication and supply chain management."

FIGURE 5-3

Broadcom's sources of IT value



Those core capabilities create the environment in which IT is like air. Figure 5-3 shows how Broadcom's IT strategy fits into the value quadrant.

Sharp HealthCare: Internal informing, built on enterprise optimizing

Sharp is the leading health care provider in San Diego, California. In 2007 it won the prestigious Malcolm Baldrige National Quality Award, and the award committee cited Sharp's IT as a contributor to the award.[5]

Sharp, funded in part via philanthropy, is a not-for-profit enterprise with fourteen thousand employees, seven hospitals, three affiliated medical groups, and a health plan offering. According to Bill Spooner, senior VP and CIO, "Our basic theme is to improve patient satisfaction by improving physician and employee satisfaction. Our key 'pillars of value' are finance, service, quality, people (employees), growth, and community. When patients walk away feeling they've been taken care of, we believe growth, finance, and community will take care of themselves."[6]

In addition to its recent Baldridge award, Sharp's Web site has won numerous awards, and Sharp is one of six health care systems in the United States to be on the "most wired" award list for all the years of this Hospitals & Health Networks award. But Sharp's IT budget is not aggressive. "Since the late 1990s, we had pursued a best-of-breed strategy for our IT applications," says Spooner. "There were no alternatives. No vendor could do most of the critical functions. But our integration of the multiple applications was not effective. Physicians still had to go to multiple systems to get their data," a situation that does not contribute to efficient and effective health care.

In a highly strategic optimizing project, Sharp replaced its polyglot information systems environment with an integrated product suite, which it called the Core Patient Care Project. The desired outcomes of the project include better patient care, a

better working environment for physicians and nurses, and modernization of the hospital facility to meet the California seismic law requiring buildings to withstand earthquakes. The consolidation improved internal processes significantly, as noted by the Baldridge award. But it also provided additional opportunities for value.

One capability of the Core Patient Care Project illustrates how Sharp uses information to improve physician decision making. Diagnosis is one of the most important steps in treatment. Generally, a correct diagnosis early in treatment leads to better outcomes for the patient and lower costs for treatment; an incorrect diagnosis tends to produce poor outcomes and high costs. Physicians vary in their diagnostic abilities, and any physician can produce diagnoses of varying quality depending on a variety of personal and situational factors such as the physician's mood, fatigue, knowledge and memory, familiarity with the conditions presented by the patient, the patient's manner and appearance, and so on.

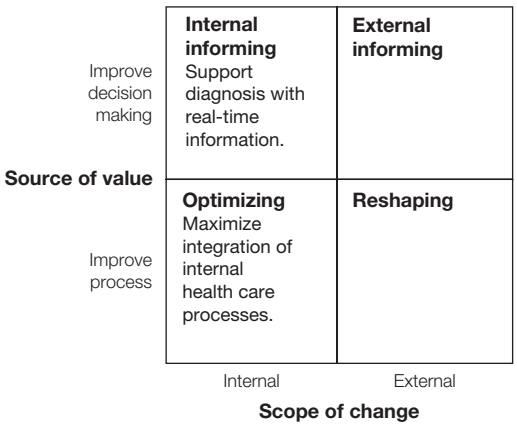
Computers have no such human frailties. When presented with a list of symptoms and measurements, a computer compares the data to an encyclopedic body of knowledge, responding with the same range of possible diagnoses every time. By augmenting

Sharp's IT value at a glance

- *Key business outcomes:* Improve patient satisfaction by improving physician and employee satisfaction and capabilities; "six pillars" of value: finance, service, quality, people (employees), growth, and community
- *IT focus:* Integrate hospital processes and information systems to optimize efficiency and effectiveness of health care personnel; internal informing to maximize quality of health care decision making

FIGURE 5-4

Sharp's sources of IT value



human judgment with machine judgment—internal informing for physicians—Sharp dramatically improves the consistency and quality of diagnoses, and so outcomes and costs. Figure 5-4 shows how Sharp's IT strategy fits into the value quadrants.

LFSCo: Continuous reshaping via IT

IT's most visible value for LFSCo comes from reshaping customer processes for credit processing. "We add value to merchants in four ways," says the CIO. "First, we make the POS [point of sale equipment] always available in the merchant's store whenever a customer comes in to use it. Second, we mitigate merchants' risk. Lots of cash in a store makes a merchant a target, and checks are a risk. Third, merchants can anticipate being paid within thirty days with us—even within forty-eight hours if they need it. Fourth, our new products attract more people into their store, and the merchants get paid when someone uses the POS in their store."[7]

LFSCo's IT value at a glance

- *Key business outcomes:* Use of POS to deliver reliable service and increasing range of products and services to merchants and their customers; use of technology infrastructure and applications to beat competitors to market with new products and services
- *IT focus:* Continuous, reliable IT operations; continuous reduction in cost per business transaction, ensuring greater margins while IT supports rapid business growth; continuously increasing IT productivity to reduce time to market and cost for innovative products and services

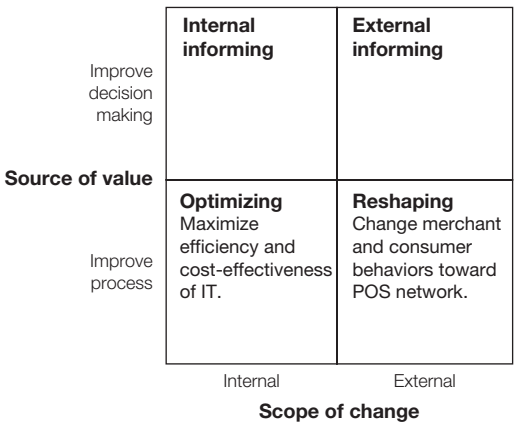
But IT cannot deliver value only through external activities. Continuous optimizing is also essential. Even here, in this fast-growing financial services company whose management sees IT capability as a competitive weapon, management pays strict attention to cost-effective operations. The company expects the IT cost per business transaction to decline, even as absolute IT costs rise.

IT budget conversations have three dimensions: (1) investments in IT needed to support new products or services; (2) increases in IT capacity needed to support organic business growth; and (3) tools to make the IT organization more productive— for example, a new programming tool. In a company whose IT-related costs are 25 percent of the overall budget, improvements in IT productivity have a direct impact on IT costs per business transaction. Because delivery of new products and services is done via the POS network, IT productivity also has a direct impact on time to market. Says the CIO:

> We're growing faster than our competitors, in part because we deploy technology more aggressively. We are launching a new product where people can go into a store or restaurant and

FIGURE 5-5

LFSCo's sources of IT value



pay their bills, as if they were in a bank, using their debit card at our POS terminal. In addition, ninety million prepaid cell phone owners can recharge their cell phone minutes using an LFSCo POS. Our competitors can't do that.

IT contributes directly to our ability to compete. We get questions about costs with new initiatives, not about value. They ask us, "Can you do it faster, more cheaply?" No one ever says, "Don't do it."

Figure 5-5 shows how LFSCo's IT strategy fits into the value quadrants.

DKSH: Putting information into the value proposition

Market expansion services provider DKSH is an example of an apparently growing trend: the business executive whose vision for the enterprise involves plenty of excellent IT. In such cases, the

expectation of high value from IT is already present, and the CIO need only deliver it. This is what appealed to Dieter Schlosser when he joined DKSH as VP IT from DaimlerChrysler in 2005. "It was very exciting to see how committed DKSH top management is to IT. My boss [hires only] top people in IT . . . and that sets the tone in the organization for this journey."[8]

As noted earlier, in 2005 senior executive VP Gonpo Tsering decided to standardize business operations and create a shared services center, an initiative supported by a global rollout of SAP's enterprise resource planning software. Tsering's executive colleagues were initially skeptical of this optimizing initiative. The business was growing profitably, and most colleagues anticipated more risk than reward from such major change. Tsering realized that he needed to focus on more than cost. "I told our CEO that by centralizing IT, I could probably save 33 percent, maybe more," says Tsering. "But that's not what it's about. It's about risk management, competitive advantage, standardization and harmonization, agility of the business model, and taking waste out of the current processes."

It helped that the senior executive VP, and not an IT executive, was pitching this change. "I had to convince them that a tube of toothpaste and a luxury watch are essentially the same in terms of business process," says Tsering. "This was a paradigm shift, but I convinced the CEO in about eight minutes, and together we convinced the chairman in about an hour." The winning argument was based on risks to current services and future growth rather than on costs of current operations.

In our interviews, Tsering and Schlosser emphasized the fact that DKSH, being in a services business, could not operate without its IT. "If we had no IT for more than one day, we'd be out of business," Tsering says. Consolidating and standardizing infrastructure could go a long way in reducing availability risk. But more was at stake. The two men focused also on standardizing business processes and applications to reduce risks to accuracy and agility faced by the growing business.[9] According to Schlosser, this argument was

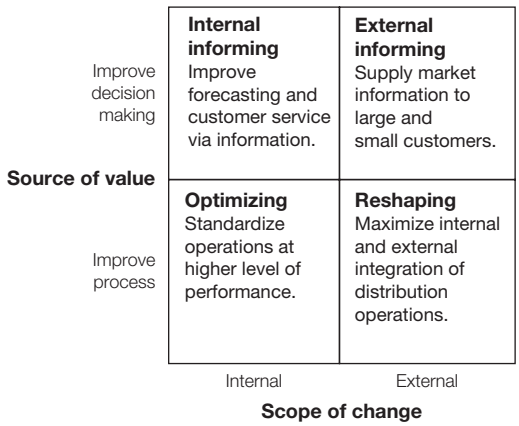
convincing. "The board believed that our growth targets could only be achieved with standard processes and IT. We wanted to duplicate what we were doing in our top countries, to offer the same level of services across Asia. IT was our instant vehicle to do that, and our enabler for supporting the business in the future."

In addition to the operational benefits of optimizing, a major source of value was internal and external informing, achieved via a real-time data warehouse that Schlosser and his staff built on top of the shared services engine. According to Schlosser, "I thought we had to streamline the information flow. Soon I realized I was on the wrong track. We had to streamline and make it more efficient, but we had to build it up!" Tsering adds:

> You don't do distribution for ten to twenty years for the same supplier. You're constantly renegotiating contracts and outsourcing deals. Moving the boxes is a commodity. Everyone can do that, though of course you have to be high quality, manage inventory, take care of lost sales, and so on. The added value is information. Consumer behavior and market information is very compelling. For example, in China, we have a branch structure, and we have dedicated sales teams related to geographies. With the information that we keep in SAP, and knowing which teams work in which geography, we can give behavioral reports out that describe the market, the consumer behavior, the points of sales. Many of the principals [large trading partners] can't generate this kind of information on their own.
>
> With the information factory, we provide three things. First, market information—what's selling, where. Second, for companies that don't want to do their own information warehouses, we give them access to our business warehouse. Finally, for companies that want analytical tools, we offer access to the analytical tools in the business warehouse. We offer one thousand different reports in Malaysia alone, and one hundred fifty thousand throughout Asia on a daily basis.

FIGURE 5-6

DKSH's sources of IT value



Tsering says, "If you have world-class, totally documented certified processes in place, with reports at the tip of your finger, plus market information, this is really powerful. We collect this information but haven't used it in the past. Now we can use it." According to DKSH, their implementation of SAP's "business warehouse" information management toolset is the second largest in the world. Figure 5-6 shows how DKSH's IT strategy fits into the four value quadrants.

When you've identified ideas aimed at specific needs, the next step in the virtuous cycle is transparent investment—assessment and selection of investment proposals using clearly defined criteria. That's the subject of our next chapter.

DKSH's IT value at a glance

- *Key business outcomes:* Standardized excellence in logistics operations throughout the company; high value-add to customers based on access to market information
- *IT focus:* Automation of the enterprise to achieve high quality and efficiency of scale; use of information generated from operations to offer market reporting and analysis services to customers