

# Haier Is Higher

## *A Chinese Company's Roadmap to Success via Its Reengineering System*

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**By Thomas W. Lin**

China-based Haier provided more than 60,000 refrigerators, air conditioners, washing machines, and water heaters for the 2008 Summer Olympics in Beijing. This type of success was out of reach in 1984 because the company was nearly bankrupt. But Haier's restructuring effort has taken it from a nearly bankrupt refrigerator factory in Qingdao to a company with global sales of US\$17.71 billion in 2008.

Statistics from the restructuring effort speak for themselves. From 2001 to 2004, Haier reduced its production cycle by 70% and its production cost by 40%. At the same time, Haier increased its customer satisfaction rate by 60% and its quality level by 40%. Additionally, its new-product-development speed used to range from six to 12 months. Today it's 17 hours to three months.

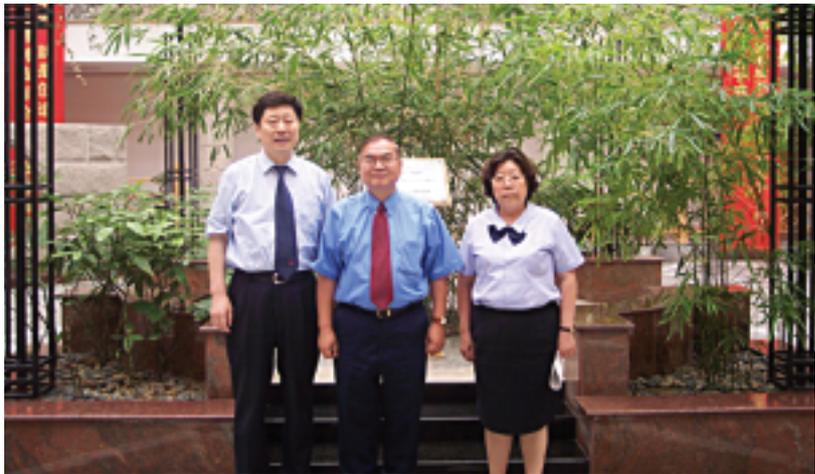
It's no ancient Chinese secret how Haier turned itself around. The firm implemented three management-control systems: the OEC management-control system (**O**verall; **E**veryday/**E**veryone/**E**verything; **C**ontrol and **C**learance), unique performance management systems, and the market-chain-based business process reengineering system.

Today, Haier Group is recognized as a world-class brand. On June 12, 2009, Haier ranked third among household appliance companies on *Forbes's* Top 600 list of the "World's Most Reputable Companies" for the second consecutive year and first among Chinese companies. In October 2009, *Fortune China* ranked Haier first for the fourth consecutive year in its list of "The Most Admired Chinese Companies." For a list of other honors, see "A Lot to Be Proud Of" on p. 47.

The May 2005 issue of *Strategic Finance* and the Spring 2005 issue of *Management Accounting Quarterly* described Haier's OEC system, and the October 2006 issue of *Strategic Finance* described its unique performance management systems. This article introduces its reengineering system. This system is based on a Chinese value: Every employee would rather be the head of a chicken (i.e., an executive in a small company) than the tail of an ox (i.e., a small manager in a large company). Here's how the company achieved its success.

## The System and Why Haier Implemented It

Haier began to implement the market-chain-based business process reengineering system in late 1998. According to CEO Zhang Ruimin, a market chain is a series of business process activities to make products or render services to satisfy customers' needs. In a nutshell, a market chain links every employee's work with the market, which can be an external or internal market. Therefore, every Haier employee's next downstream activity or process is a market, and every employee faces a market with a direct



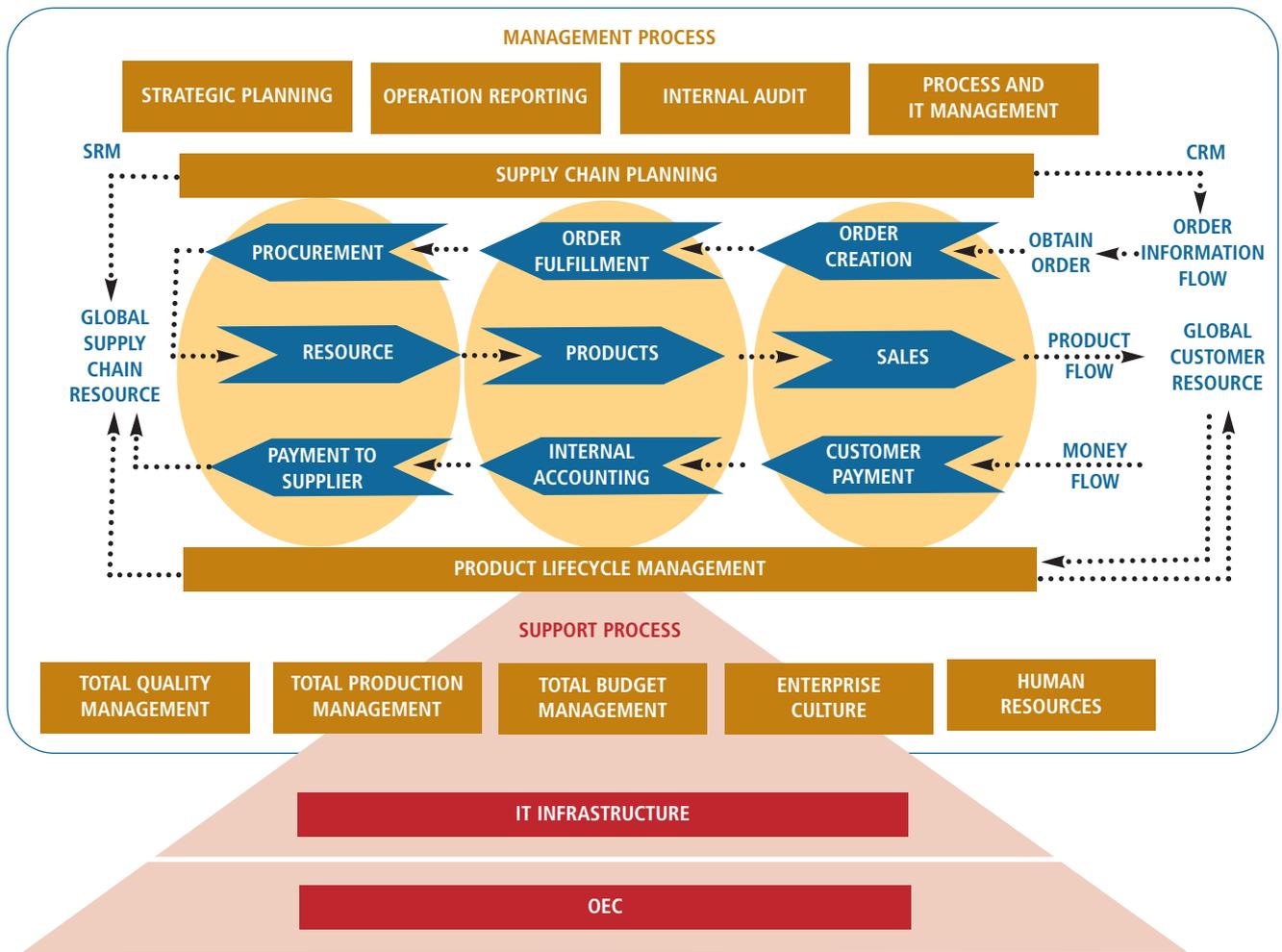
Author Tom Lin (center) meets with Haier CEO Zhang Ruimin (left) and President Yang Mianmian.

link to a customer. This allows the firm to convert external market competition into a type of internal competition. Therefore, with employee compensation tied to market performance, every employee provides the best performance to meet his or her customers' needs.

To do so, every Haier employee has a picture of the entire organization that shows how company parts interrelate. For example, the production department's direct customer is the distribution department. If you ask an employee where an order comes from, he or she can tell you. To understand the company's entire market-chain system, each employee attends training at Haier University and learns everything from product development to production and distribution.

Figure 1 shows the synchronous flow model of Haier's market chains. The top row shows the management process of strategic planning, operation reporting, internal audit, and process and IT management. The second row shows the supply chain planning that links with both supplier relationship management (SRM) to obtain the best global supply chain resource and customer relationship management (CRM) to provide excellent service to global customers. There are three major flows: order information, product, and money flow. In the center of the diagram, there are three circles. The left circle shows the primary activities of the logistics division. The middle circle shows the primary activities of the various product divisions. The right circle shows the primary activities of the marketing and sales division. The company pays attention to product lifecycle management (PLM). All service departments support the three circles with total quality management, total production management, total budget management, enterprise culture, and human

**Figure 1: Market-Chain-Based Business Process Reengineering System**



resources management. The fundamental bases of the reengineering system are the IT infrastructure and Haier's OEC management-control system.

As mentioned earlier, every employee would rather be the head of a chicken than the tail of an ox. Haier capitalized on this value to treat every employee with importance and empower each employee to directly contribute to the organization's overall success.

Facing the challenges of e-commerce and China's accession to the World Trade Organization, Haier began a management-restructuring program in late 1998 backed by the efficient market-chain system and order-process performance. In particular, the restructuring program focused on improved information dissemination for contract performance, logistics, capital investment, after-sales services, inventory, and operation cost reduction. Restructuring its production and management systems

has enabled the company to diversify internal and external resources. Additionally, its worldwide logistics, distribution, and manufacturing facilities ensure customer satisfaction through their efficient operations.

### Organizational Structure and Process Changes

To implement the system and prepare for structural change, Haier Group's executives spent six months educating managers and workers, emphasizing taking down walls between departments and divisions. Under the old system, only the sales departments had to face the market directly. Before the change, Haier Group's organizational structure—a pyramid structure—was as follows:

- ◆ Headquarters was the planning center;
- ◆ The product-line divisions were investment centers or profit centers;

- ◆ The sales departments were revenue centers;
- ◆ The factories and service departments were cost centers; and
- ◆ The work teams were the quality centers.

In March 1999, Haier began to transform the Group's pyramid structure into a matrix structure focused on project operations. Under this matrix, the horizontal axis consists of functional departments, and the vertical axis consists of projects. The new structure maintained all the divisions and their R&D, procurement, and sales departments, but the divisions now needed to interact with other divisions on certain projects.

From mid-August to October 1999, Haier implemented a revolutionary organizational change—it created three major interactive processes with divisions under each. These processes include development or core, functional or supporting, and product.

**1. Development or Core Process**

Sales, procurement, accounting, and export departments were removed from all product-line divisions to form four independent divisions: (1) commerce flow development division, (2) material flow development division, (3) overseas development division, and (4) capital flow development division. The heads of these new divisions report directly to the Haier Group president.

**2. Functional or Supporting Process**

Haier removed other service departments from each division to form the company-wide R&D, human resources, and customer relations divisions (Haier calls them the 3Rs). These are the development-supporting processes. The others are the basic support processes, which Haier calls the 3Ts and which include total production management, total quality management, and total budget management centers. The heads of these new divisions report directly to the Haier Group president.

**3. Product Process**

Haier rearranged the factories to form seven product divisions: (1) refrigeration, (2) air conditioners, (3) washing machines, (4) IT products, (5) kitchen, (6) bath and electrics, and (7) technology equipment, as well as direct affiliates such as communications, housing, and biological engineering. The heads of these divisions also report directly to the Haier Group president.

The organizational changes dramatically reduced layers. For example, in the refrigeration division there were six layers from the general plant manager to the line

workers, but now there are only two layers—the general plant manager and workers. Same goes for the customer orders. Now orders go directly to the production workstations instead of flowing through many divisions or departments: marketing department, specific product group division, planning department, production plant, and production workstations.

With the goal to consolidate external resources to obtain valuable customer orders, Haier implemented the following changes from November 1999 to March 2001: logistics reorganization, supply chain management, and three Just-in-Time (JIT) systems. Here's a look at these three main components:

*Logistics Reorganization*

- ◆ **Unified Purchase:** Material cost decreased 5% annually during the first three years because one department made all the purchases.
- ◆ **Unified Warehousing and Storage:** Haier built two fully automated logistics centers. This not only decreased a warehouse area by 200,000 square meters but also cut down 90% of idle materials and 63% of capital in stock.
- ◆ **Unified Delivery:** Haier has 16,000 vehicles throughout the country for delivery, thus cutting down on transporting costs because all vehicles are under one centralized logistics department's control.

*Supply Chain Management*

- ◆ **Interior:** Within the company, the integrated supply chain management reduced an ordering cycle of more than seven days to less than one hour. Also, two new relay-type delivery centers now enable the materials to be delivered to any working points in four hours.
- ◆ **Exterior:** Supply chain management extends to every supplier, and changes reduced response time for an order from 36 days to 10 or fewer days.
- ◆ **Results:** Haier reduced suppliers from 2,366 to 700 firms, and 82% of the suppliers are internationally renowned.

*Just-in-Time Systems*

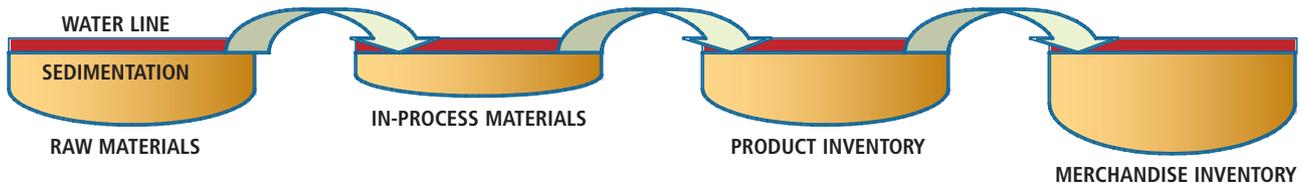
Haier's logistics achieves synchronous flow through JIT procurement, JIT internal delivery, and JIT external logistics.

- ◆ **JIT Procurement:** Haier's new JIT procurement system transforms the supplier into a strategic partner where both benefit. With the reconstruction of internal and external resources, the company has entirely optimized the supplier structure. Haier established two international industrial parks and introduced Emerson and other inter-

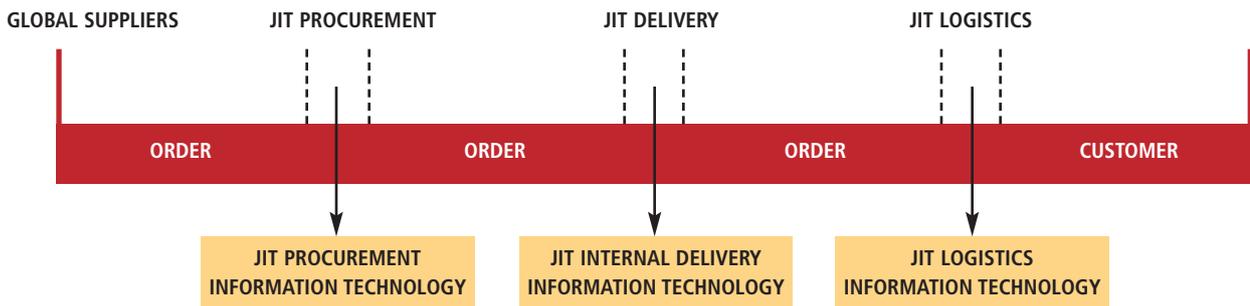
**Figure 2: Zero Inventory by Three Just-in-Time (JIT) Implementations**

**From: Order for Inventory Procurement**

*Haier utilizes speed to create the customer resource, so it describes the enterprise as a fast-running river.*



**To: Order for Customer Order**



Zero inventory: Logistics is designed for order instead of inventory.

- Haier’s operation is designed for order, so the group’s information flow is designed for order information. At the same time, the information flow activates flows of materials and capital.
- Currently, Haier purchases more than 260,000 kinds of items. In such complicated situations, Haier lowers its inactive inventory by 90%, warehouse space by 88%, and its capital turnover of raw material inventory from more than 30 days to less than 10 days.

national suppliers for investment in setting up factories. All these changes speed up the responses to orders and ensure that Haier has technological superiority compared to its opponents, making JIT procurement come true.

◆ **JIT Internal Delivery:** Establishing two international logistics centers changed the storage warehouses into computer-controlled delivery centers. It revolutionized traditional warehouses so an employee can deliver materials to any working points in four hours. Furthermore, by having the basic containers and conveying tools for logistics unified, standardized, containerized, universalized, and mechanized, Haier’s logistics system carries out an entire in-depth reform of the delivery management system for the working points in workshops as well as the OEC management system. The management mode of a pull-type indicator board enables the soft production by which every line makes products with hundreds of specifications for more than 10 countries.

◆ **JIT External Logistics:** In order to maintain cooperative relations with some powerful organizations such as the national post office, China Transport Group, and others, Haier’s logistics department devotes great effort to

developing third-party logistics to set up a network connecting to global supply chains and global customer resources. By means of the information platform, GPS technology, and barcode technology, Haier allocates materials to its main cities in eight hours, to some regions in 24 hours, and anyplace country-wide in four days. This guarantees quickly meeting customers’ requirements in a new economic era and also realizes zero-distance service.

Haier’s goal for its logistics system is to reduce warehouse space and achieve on-time delivery. Since Haier implemented the market-chain-based business process reengineering system, its logistics system has achieved synchronous flow at a speed of three JIT with the goal of achieving zero inventory (see Figure 2) by changing from “push production to produce inventory” to “pull production to produce no inventory.” Haier improved on-time delivery from 95% to 99% and reduced the transportation defect rate from 3% to 0.5%. It also reduced prices and improved quality of both raw materials and parts. It saved the entire company more than \$12.5 million in 1998, more than \$62.5 million in 1999, and almost \$125 million in 2001.

### SST System: Claim Compensation, Claim Payment, and Stop

In 2001 Haier created a unique transaction job-recording system between two activities in the market chain called SST: Claim Compensation, Claim Payment, and Stop.

**S (Suo Chou):** *Claim to the downstream-activity party for compensation.* If an upstream-activity employee can perform his or her activity or job well, he or she should claim compensation from the employee (i.e., his or her internal customer) downstream in the market chain. For example, the logistics department follows a product division's monthly and weekly production plans to deliver materials to various production workstations and makes a daily or weekly claim to this product division for the service provided according to the contract price.

**S (Suo Pei):** *Claim to the upstream activity for payment.* If an upstream-activity employee doesn't perform his or her activity or job well, his or her downstream-activity employee (i.e., his or her internal customer) should claim payment from him or her. For example, if the logistics department delayed the delivery of materials, then that product division can make a claim for its loss.

**T (Tiao Zha):** *Stop.* If there isn't a claim for compensation or payment, the computer system will stop the process, and the responsible party should pay the claims.

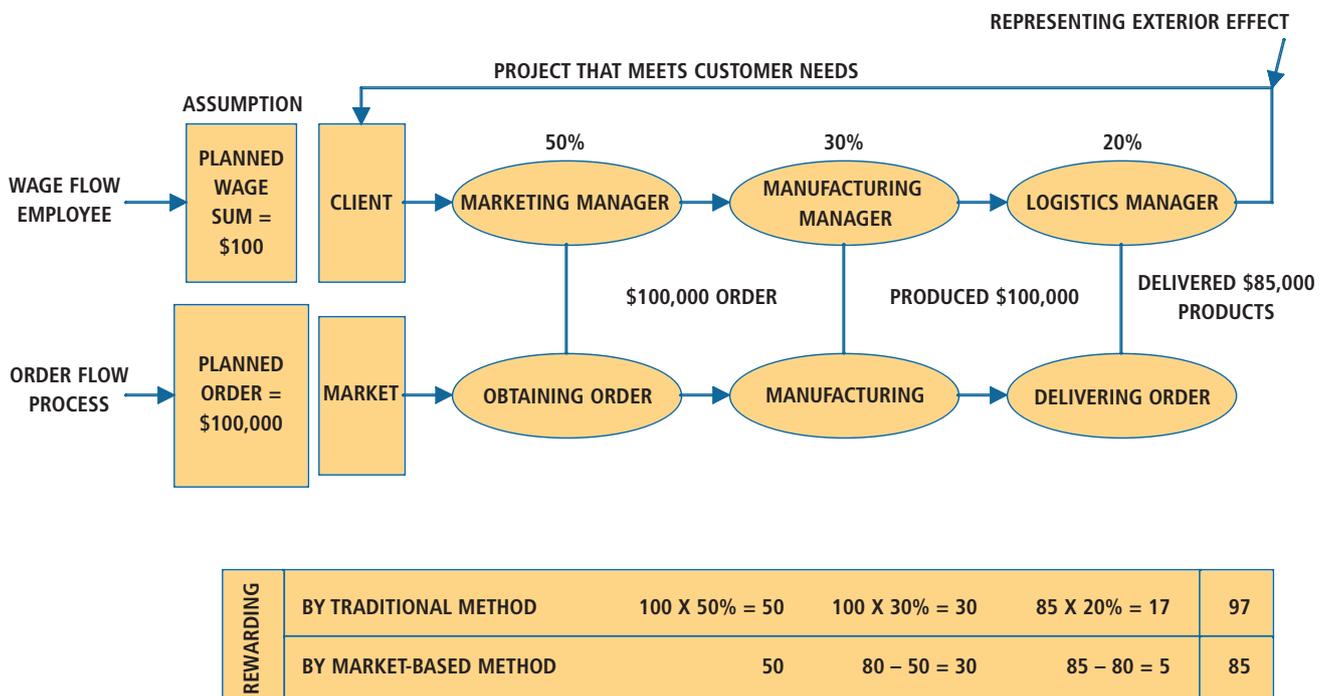
The downstream-activity customer makes the final decision on whether to pay for any job because at Haier the customer is always right! For example, if there's a production delay or material delivery delay, the responsible party should pay the claims.

The following example compares the traditional vs. market-chain-based performance and compensation distribution systems. Assume that one \$100,000 customer order requires the cooperation of three departments: marketing, manufacturing, and logistics, with the input of 50%, 30%, and 20%, respectively. Also assume that both the marketing and manufacturing departments obtained and produced the target \$100,000 order, but the logistics department delivered only \$85,000. Figure 3 shows both the traditional and market-chain-based performance and compensation. Under the traditional system, the logistics manager is expected to receive \$17 in compensation ( $\$85,000 \times 100/100,000 \times 20\%$ ). But under the market-chain-based system, the logistics manager can only receive \$5 in compensation, as Figure 4 explains.

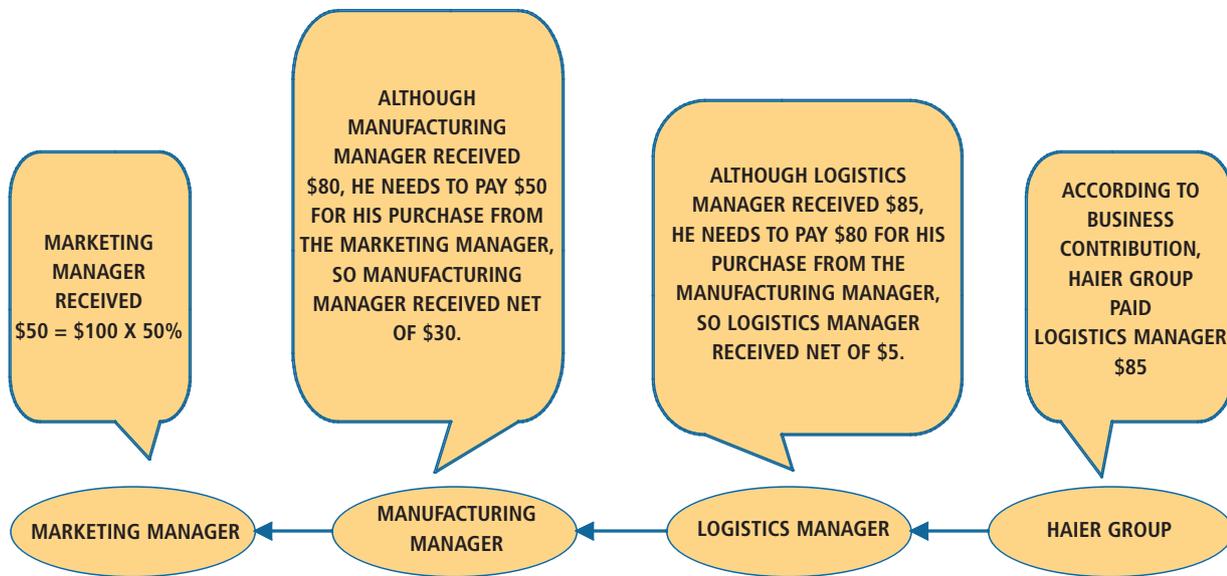
### Every Employee Is a Strategic Business Unit (SBU)

Starting in 2002, Haier's reengineering system began focusing on making every employee a strategic business

Figure 3: Traditional vs. Market-Chain-Based Performance and Compensation Distribution Systems



**Figure 4: Market-Chain-Based Compensation Distribution Flowchart**



unit (SBU), which means that each employee is an independent profit center with the responsibility to make profit. All Haier employees learn that they have to give customers what they want, and, with SBU, employees care about the individual needs of the customers. This philosophy is “The customer is the king for every Haier salesperson.” In fact, the firm differs from other appliance companies because it builds products to order, and it doesn’t compete on price. Also, when a customer buys a washing machine or an air conditioner, an employee goes to the customer’s home to set it up.

As mentioned earlier, to achieve this kind of excellence, each employee generates his or her revenue by providing the best service to the employee in the next step downstream. In turn, each incurs expenses or costs by receiving services or resources from the employee in the previous step upstream and from supporting departments.

The SBU’s goal is for each employee to become the principal part of innovation, demonstrating his or her own value while creating value for customers. Because of the SBU program, employees’ thought processes transform from “I am only in charge of design, so I don’t need to think about manufacturing or sales” to “How does the market accept my design?”

At Haier, each employee has a resource passbook that has two columns: one for income, one for expenses. For example, the company rewards Chen, an employee responsible for designing products, not on how attractive

## A Lot to Be Proud Of

**Haier recently earned the following awards.**

- ◆ On July 30, 2008, *The Wall Street Journal Asia* published “Top 200 Asian Corporations,” and Haier ranked first on “Overall Leadership of Mainland China Corporations” for the fifth consecutive year.
- ◆ For six consecutive years, Haier President Yang Mianmian has earned a spot on *Fortune’s* “Top 50 International Most Powerful Women in Business.” On the September 28, 2009, list, she was ranked No. 17.
- ◆ On December 1, 2008, R&F and Beijing Famous-Brand Evaluation Co. announced that Haier topped the list for seven consecutive years as the “China Most Valuable Brand” with a brand value of US\$11.7 billion.
- ◆ On April 23, 2009, China National Household Electric Appliances Service Association announced that Haier ranked first in the 2009 Customer Satisfaction Survey.
- ◆ In May 2009, Haier was the only Chinese household appliance enterprise to win *Business-Week’s* Top 10 Chinese and Foreign Enterprises in China “Green Economy Award.”

these products are but on how they sell in the market. If Product X has a breakeven point of 20,000 units and sales are more than that level, then Chen will earn a bonus from the profits. In Chen’s resource passbook, the income column contains his basic salary plus the bonus amount that he has earned from selling Product X. The expense column is a fixed percentage of the resources the company provides for him to develop this product. If he sells only 15,000 units, his income will be his basic salary, and he will transfer the other 5,000 units with a formula to calculate the loss amount and record it as an expense in his resource passbook. Chen isn’t required to pay this money to the firm immediately because it can be accumulated until the year-end. If Chen designs another product that sells well above the breakeven point before year-end, the company will use the bonus from that product’s profit to compensate for the losses on Product X.

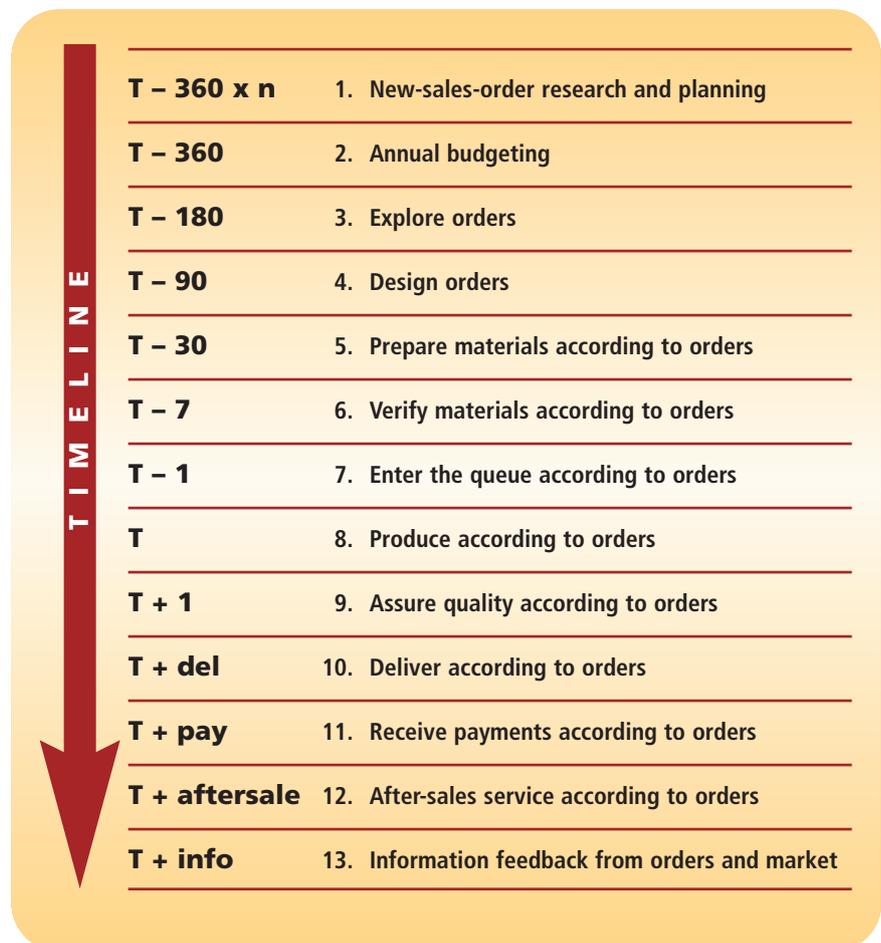
The SBU concept gets everybody involved in innovation. For example, before the SBU management implementation, the painting department manager had only one standard with which to assess a painter: “Painted items do not look cyan.” Painted items look cyan when the paint layer is too thin, so, to meet the requirement, one of the painters, Hu, painted a thick layer. Although he met the requirement, the paint consumption was too much. After implementing the SBU resource passbook, Hu needed to manage his consumption of paint, too, so he invented a new tool to reduce his paint consumption but maintain the proper thickness of the paint layer. Moreover, his time to clean painting tools decreased from once per three cycles to once per 60 cycles without decreasing the quality of his work. Another SBU success story is Zhang, a person who has managed the steel plate purchase business on his own since 2002. This employee doubled sales of steel plates from \$112.5 million in 2002 to \$225 million in 2004.

## New Haier Operations Model: Individual Goal Combination

Haier Group started to implement the individual goal combination operations model in 2006. Individual goal combination is Haier’s competition model to achieve success in the global market. “Individual” means an independent and innovative SBU; “goal” means a market objective of being first among the competition. Individual goal combination is an integration of the individual SBU and company goal, direct selling, and direct delivery of goods and services to generate positive cash flows.

Why is the individual goal combination so important? According to Zhan Li, Haier Group process and IT business department director, “It’s the demand of the times. Only when each individual is responsible for the market can the consistency between speed and accuracy be achieved and also can the company achieve competitive advantage. Only when each individual gives full play of his/her potential can the company’s goal be achieved or surpassed.”

**Figure 5: Model T of the Individual Goal Combination Operations Model**



The individual goal combination is a process-wide model. It applies to the entire process of business operations from order creation, to order acquisition, to order execution.

The goal of the individual goal combination is to make Haier a world-class brand. Promoting the individual goal combination operations model is the right way to realize zero distance to the customer, zero inventory in sales, and zero past-due accounts receivable and thus achieve the company's goal of overall optimization in terms of quality, price, quantity, and profitability.

In order to implement the individual goal combination model successfully, Haier developed the Model T management approach that appears in Figure 5. Model T is based on a budget system in which several rounds of discussions between top management and product-line managers set the competitive market objectives. With Model T, Haier divides the entire process from order creation, to order acquisition, to order execution into 13 nodes and selects T, the planned production day, as the starting point of the two-way process promotion. T minus is the foundation of the T objective, while T plus is the enhancement of the T objective.

The 13 nodes represent 13 steps in terms of time sequence:

1. Conducting new-sales-order research and planning at T time (i.e., production time) minus at least 360 days (i.e., at least one year early);
2. Preparing the annual budget at T minus 360 days;
3. Exploring the market and customers for new orders at T minus 180 days;
4. Designing new-order products at T minus 90 days;
5. Preparing bill of materials according to orders at T minus 30 days;
6. Verifying materials according to orders at T minus seven days;
7. Entering the production queue according to orders at T minus one day;
8. Producing according to orders at T time;
9. Assuring quality according to orders during T and T plus one day;
10. Delivering goods according to orders at the planned delivery date;
11. Receiving cash payments according to order-paying date;
12. Providing after-sales service according to order at T plus days; and
13. Collecting feedback information from orders and the market at T plus days.

## Restructuring Leads to Success

Haier can attribute its success to three unique and effective management-control systems: the OEC management-control system, unique performance management systems, and the market-chain-based business process reengineering system. To sum up, Haier's reengineering system has the following characteristics:

**Nerve:** Market chains.

**Base:** Haier's enterprise culture and IT computer information systems.

**Center:** Order processing information flow as the center to combine logistics flow and financial flow.

**Goal:** Zero inventory.

**Compensation system:** SST incentive system with resource passbooks.

**Motor:** Every employee is an SBU.

**Output:** Creative and valuable customer orders.

**Operations model:** Individual goal combination T model.

This company has a lot to be proud of. Haier is the first Chinese collective enterprise that has sales of \$16.2 billion with its own established brand. Since 2005, Haier has appeared on the *Financial Times's* annual list of the 10 top Chinese world-class brands. On April 27, 2007, Tsinghua University Chinese Enterprise Research Center announced the "2007 Customer Satisfaction Index for Durable Goods" and featured seven Haier products as the most satisfying goods. And on March 6, 2008, CEO Zhang Ruimin was honored as one of the "Top 10 China Industrial and Economic People" at the fourth awards ceremony of the China Industrial and Economic People. In an increasingly global economy, many companies can learn from the restructuring efforts that led to Haier's multiple success stories. **SF**

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