Chapter 11

MANAGEMENT DECISION AND CONTROL

Although they are not directly related to internationalization, decision making and controlling are two management functions that play critical roles in international operations. In *decision making,* a manager chooses a course of action among alternatives. In *controlling,* the manager evaluates results in relation to plans or objectives and decides what action, if any, to take. How these functions are carried out is influenced by the international context. An organization can employ a centralized or decentralized management system depending on such factors as company philosophy or competition. The company also has an array of measures and tools it can use to evaluate firm performance and restructuring options. As with most international operations, culture plays a significant role in what is important in both decision-making processes and control features, and can affect MNC decisions when forming relationships with subsidiaries.

This chapter examines the different decision-making and controlling management functions used by MNCs, notes some of the major factors that account for differences between these functions, and identifies the major challenges of the years ahead. The specific objectives of this chapter are:

1. **PROVIDE** comparative examples of decision making in different countries.

2. **PRESENT** some of the major factors affecting the degree of decision-making authority given to overseas units.

3. **COMPARE** and **CONTRAST** direct controls with indirect controls.

4. **DESCRIBE** some of the major differences in the ways that MNCs control operations.

5. **DISCUSS** some of the specific performance measures that are used to control international operations.

The World of *International Management*

Global Online Retail: Amazon and Beyond

The Internet is revolutionizing the way customers around the world shop. According to Forrester Research, 154 million people in the U.S. made an online purchase in 2009 and online retail sales grew by 11 percent over 2008, whereas total retail sales grew by just 2.5 percent. Computers, apparel, and consumer electronics were the largest categories for online purchase. Forrester forecasts U.S. online retail sales will reach $248.7 billion by 2014. (See the nearby chart.) Forrester also predicts that in Western Europe online retail sales will hit $156 billion in 2014.

Recently, many MNCs have chosen to sell their products online in order to reach new customers across the globe. Colleen Francis of the *E-Commerce Times* has pointed out that almost any business can sell products online internationally. Managers, however, must take into account several important factors when doing online business around the world. In addition, a number of businesses have chosen to use Amazon.com to sell their products. Amazon.com is undoubtedly the world's biggest player in the online retail market today.
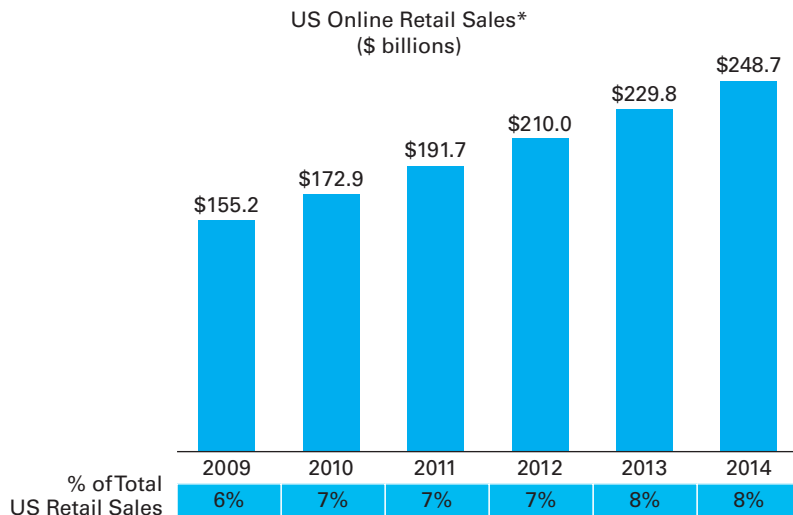
Key Considerations

In the *E-Commerce Times,* Colleen Francis asserts that "going international requires careful consideration of several factors, including security, language differences, currency differences, shipping costs, fulfillment time, and customer support."

1. **Security**
   It is essential that online transactions be protected against Internet fraud. VASCO is one company that works to protect online buyers and sellers from Internet fraud. VASCO is "a leading supplier of strong authentication and e-signature solutions and services specializing in Internet

US online retail sales will reach $248.7 billion by 2014

US Online Retail Sales*
($ billions)

	2009	2010	2011	2012	2013	2014
($ billions)	$155.2	$172.9	$191.7	$210.0	$229.8	$248.7
% of Total US Retail Sales	6%	7%	7%	7%	8%	8%

Security applications and transactions." It serves more than 8,000 firms in over 100 countries.

In March 2009, HSBC Bank Paraguay began securing its online customers with VASCO's DIGIPASS 2-factor authentication software. Jan Valcke, VASCO's President and COO, stated: "Combating Internet fraud is an ongoing battle and HSBC Paraguay has proved that it can secure its end-users in a convenient and cost-effective way without having to compromise on security." HSBC provides financial services through an international network which includes a growing e-commerce capability.

2. **Language/Currency Differences**
When making online purchases, customers need to see product prices in their local currency and product descriptions in their local language. Colleen Francis explained, "Companies can easily set up a U.S.-based Web site to convert correspondences into the language of the merchant's choice, either with a drop-down menu or automatically from the customer's IP address." Making adjustments to accommodate the international customers is critical for an online retailer.

3. **Shipping Costs**
When shipping internationally, businesses face the risks of abandoned shipments and costly international returns. One way to avoid these risks is to work with a Web solutions company that screens international orders and assumes the burden of processing transactions. In addition, managers should be aware that international shipping often has hidden fees such as duties and taxes. Even with high shipping costs, however, customers may still find a certain product bought online to be cheaper than it would if purchased in their own country. Thus, they may be more willing to buy online and pay the extra shipping costs.

4. **Fulfillment Time**
It is important that sellers fulfill orders efficiently so that customers receive their online purchases as quickly as possible. One way to avoid delays at customs is to be familiar with an item's product categorization and documentation process. Also, to reassure the buyer that the item is indeed arriving soon, sellers are encouraged to provide the buyer with the product's tracking number.

5. **Customer Support**
Colleen Francis stated: "Speaking your customer's language also helps to speed up communication for easy conversion and repeat business. Using an international solutions provider that

has multi-lingual customer service agents is a key aspect of tackling international e-commerce."

Moreover, Colleen Francis notes that managers need to focus on marketing internationally. Marketing strategies should include Search Engine Optimization (SEO), social media, and regional press in other countries. Marketing campaigns should be tailored to the customers' cultures.

Amazon in the Lead

Since its incorporation in 1994, Amazon.com has sought to become the world's "most customer-centric company where people can find and discover virtually anything they want to buy online." Amazon.com allows online customers to buy books, movies, music, games, electronics, computers, toys, apparel, shoes, jewelry, tools, etc. Amazon itself and third party vendors are able to sell on Amazon websites, which include specific websites for the U.K., France, Germany, Canada, Japan, and China.

According to *BusinessWeek*, Amazon's "Fulfillment by Amazon" service enables small businesses to send their inventory to Amazon warehouses, so that when a customer places an order, Amazon receives an automated signal to ship it out. Amazon makes processes much simpler for small businesses doing online retailing. Amazon also works for larger players. It has handled distribution for Target and Borders and packing and customer service for Bebe.

BusinessWeek reports that Amazon's online store business is "among the biggest and most reliable in the world." How did Amazon become so successful in online retail? During a 2004 conference call, Amazon CEO Jeff Bezos noted, "The better you can make your customer experience . . . the more customers you'll attract, the larger share of that household's purchases you will attract. You can become a bigger part of a customer's life

by just simply doing a better job for them. It's a very, very simple-minded approach."

In an interview with *Harvard Business Review,* Bezos offered insights into Amazon's strategy. First, he declared that Amazon bases its strategy on things that won't change. Jeff Bezos considers the question "What's *not* going to change in the next five to ten years?" to be important. Amazon has found that this won't change: Customers will always want selection, low prices, and fast delivery. Bezos said this about Amazon's customers:

> I can't imagine that ten years from now they are going to say, "I love Amazon, but if only they could deliver my products a little more slowly." And they're not going to, ten years from now, say, "I really love Amazon, but I wish their prices were a little higher." So we know that when we put energy into defect reduction, which reduces our cost structure and thereby allows lower prices, that will be paying us dividends ten years from now.

Amazon's strategy is "customer-centric." Bezos revealed that he personally talks to people on all levels of the supply chain to make sure that prices are as low as possible for Amazon's customers. In addition, every employee, regardless of status, has to work for a time in an Amazon fulfillment center and must learn to work in a call center. Jeff Bezos himself participates in this ongoing training too. Bezos credits this customer-centric approach for Amazon's success. He notes that Amazon's decisions which have sided with the customer have been questioned by Wall Street analysts, yet these decisions have ended up generating more revenue.

As the world becomes increasingly interconnected with the Internet, online retail will play an even greater role in global commerce. To succeed in this marketplace, managers must understand how to accommodate the needs of the international customer. Jeff Bezos' explanation of Amazon's success underscores how important having a customer-focused mindset is in online retail.

The growth of online retail is changing the nature of producer-customer relationships in the global marketplace and forcing managers to consider a wider range of options and strategies for how they organize their global business and relate to their customers and suppliers. Jeff Bezos has revolutionized the very nature of shopping and has extended that revolution to other companies that use Amazon to market and distribute their products worldwide. Bezos believes that customers value selection, low prices, and fast delivery, wherever they are located, and his decision-making approach is focused squarely on these goals.

More broadly, the advent of online retail has challenged some aspects of managerial decision making and control in that the "focal" company may not operate and maintain principal channels of distribution but rely on a third party to do so. On the one hand, this suggests a looser, more flexible approach to managerial decision making and control. On the other hand, it also means that issues like security, fulfillment, and other elements of the online procurement and distribution system need to be air-tight. Companies

need to evaluate the decisions and control systems that support informed business decision making and global profitability but that maintain sufficient control over production and execution in each target market.

■ Decision-Making Process and Challenges

The managerial **decision-making** process, choosing a course of action among alternatives, is a common business practice becoming more and more relevant for the international manager as globalization becomes more pervasive. The decision-making process is often linear, though looping back is common, and consists of the general phases outlined in Figure 11–1. The degree to which managers are involved in this procedure depends on the structure of the subsidiaries and the locus of decision making. If decision making is centralized, most important decisions are made at the top; if decision making is decentralized, decisions are delegated to operating personnel. Decision making is used to solve a myriad of issues, including helping the subsidiary respond to economic and political demands of the host country. Decisions which are heavily economic in orientation concentrate on such aspects as return on investment (ROI) for overseas operations. In other instances, cultural differences can both inspire and motivate the process and outcome of decision making.

For example, Ford Motor designed and built an inexpensive vehicle, the Ikon, for the Indian market. Engineers took apart the Ford Fiesta and totally rebuilt the car to address buyer needs. Some of the changes that were made included raising the amount of rear headroom to accommodate men in turbans, adjusting doors so that they opened wider in order to avoid catching the flowing saris of women, fitting intake valves to avoid

decision making
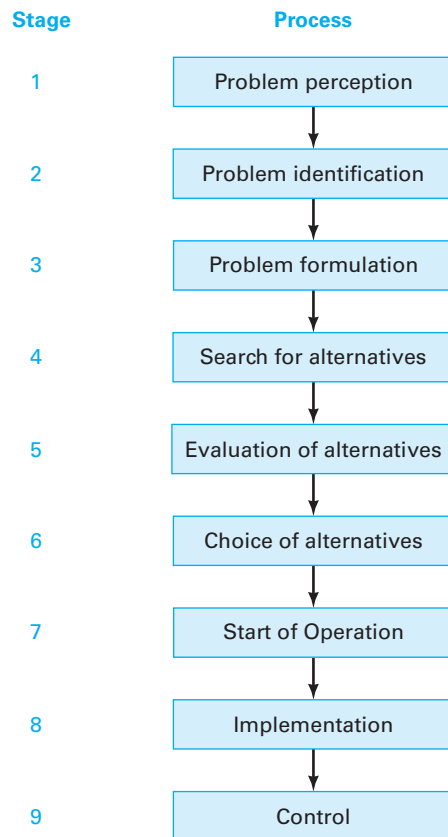The process of choosing a course of action among alternatives.

Stage	Process
1	Problem perception
2	Problem identification
3	Problem formulation
4	Search for alternatives
5	Evaluation of alternatives
6	Choice of alternatives
7	Start of Operation
8	Implementation
9	Control

Figure 11-1

Decision-Making Process

Source: From Jette Schramm-Nielsen, "Cultural Dimensions of Decision Making: Denmark and France Compared," *Journal of Managerial Psychology* 16, no. 6 (2001), p. 408. Reprinted with permission of Emerald Insight.

auto flooding during the monsoon season, toughening shock absorbers to handle the pockmarked city streets, and adjusting the air-conditioning system to deal with the intense summer heat.[1] As a result of these decisions, the car is selling very well in India. Santander, the second largest bank in Europe by market capitalization, is vesting more autonomy in its subsidiaries by listing subsidiaries in its principal foreign markets and thereby strengthening their independence and autonomy from the Spanish headquarters. A number of European banks, including Santander and HSBC Holdings PLC (see case at end of Part Four) establish foreign subsidiaries as opposed to direct branches. Santander Chief Executive Officer Alfredo Saenz said, "We also believe it's good for the local management teams, because having local minority shareholders breathing down their neck keeps them on their toes, and it's a good way of identifying the franchise as local, instead of foreign." In addition, the IPO boosted the visibility of the bank in Brazil, resulted in greater access to local capital, and put a higher value on the franchise than what analysts were giving it before the float. When Santander sold 15 percent of its Brazilian unit, the unit alone was valued at €34 billion, more than European rivals Deutsche Bank or Société Générale.[2]

The way in which decision making is carried out will be influenced by a number of factors. We will first look at some of the factors, then provide some comparative examples in order to illustrate some of the differences.

Factors Affecting Decision-Making Authority

A number of factors influence international managers' conclusions about retaining authority or delegating decision making to a subsidiary. Table 11–1 lists some of the most important situational factors, and the following discussion evaluates the influential aspects.

One of the major concerns for organizations is how efficient the processes are which are put in place. The size of a company can have great importance in this realm. Larger organizations may choose to centralize authority for critical decisions in order to ensure efficiency through greater coordination and integration of operations. An

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Table 11–1
Factors That Influence Centralization or Decentralization of Decision Making in Subsidiary Operations

Encourage Centralization	Encourage Decentralization
Large size	Small size
Large capital investment	Small capital investment
Relatively high importance to MNC	Relatively low importance to MNC
Highly competitive environment	Stable environment
Strong volume-to-unit-cost relationship	Weak volume-to-unit-cost relationship
High degree of technology	Moderate to low degree of technology
Strong importance attached to brand name, patent rights, etc.	Little importance attached to brand name, patent rights, etc.
Low level of product diversification	High level of product diversification
Homogeneous product lines	Heterogeneous product lines
Small geographic distance between home office and subsidiary	Large geographic distance between home office and subsidiary
High interdependence between the units	Low interdependence between the units
Fewer highly competent managers in host country	More highly competent managers in host country
Much experience in international business	Little experience in international business

example of this occurred after PetroChina's initial public offering (IPO) in 2001. The company consisted of 53 subsidiaries which then had sub-subsidiaries. Overall, there were more than 100 bank accounts which ultimately belonged to PetroChina, and the company was losing money by thinly spread resources. Through consolidation, the company realized over $241 million in savings and achieved greater efficiency.[3] The same holds true for companies that have a high degree of interdependence, since there is a greater need for coordination. This is especially relevant when organizations provide a large investment since they prefer to keep track of progress. It is quite common for the investing company to send home-office personnel to the subsidiary and report on the situation, and for subsidiary managers to submit periodic reports. Both of the above scenarios imply that the subsidiary is of great importance to the MNC, and it is customary in these situations for subsidiary managers to clear any decisions with the home office before implementation. In fact, MNCs often will hire someone who they know will respond to their directives and will regard this individual as an extension of the central management staff.

Another efficiency checkpoint arises when competition is high. In domestic situations, when competition increases, management will decentralize authority and give the local manager greater decision-making authority. This reduces the time that is needed for responding to competitive threats. In the international arena, however, sometimes the opposite approach is used. As competition increases and profit margins are driven down, home-office management often seeks to standardize product and marketing decisions to reduce cost and maintain profitability. Many upper-level operating decisions are made by central management and merely implemented by the subsidiary, although in some instances, companies still opt to decentralize operations if product diversification is necessary. An example of a newly centralized company was Cadbury, as it sought to improve efficiency and competitiveness in part to ward off a take-over. Cadbury recently decided to shed 15 percent of its workforce by closing 12 of its 81 factories, dropping the beverage sector of its subsidiaries and centralizing the management of its larger brands such as Trident, Dentyne, and Halls in order to better compete against candy rivals Hershey and Wrigley's.[4] Cadbury products also have a strong volume-to-unit cost relationship, as the low-cost edibles are purchased often.[5] In the end, Cadbury succumbed to a buyout by Kraft, but these moves helped strengthen the acquired company and make the combined firm leaner and better positioned globally. Firms that are able to produce large quantities will have lower cost per unit than those that produce at smaller amounts, and home-office management will often take the initiative to oversee sourcing, marketing, and overall strategy to keep subsidiary costs down.

Efficient processes become increasingly important as diversification or differences between the parent and subsidiary increase. This refers not only to specific products and services that may need to be tailored to geographic areas, but also to the socioeconomic, political, legal, and cultural environments in which the subsidiary exists. In this case, the subsidiary would have superior staff and resources which would only become increasingly skilled in manufacturing and marketing products at the local level over time. Decentralization is emphasized here, and there exists a direct relationship between the physical distance and different environments between the parent and subsidiary and the level of decentralization. In other words, the farther apart the two units are in either geographical area or cultural beliefs, the higher the level of decentralization.

Experience proves to be a simple indicator of efficiency. For example, if the subsidiary has highly competent local managers, the chances for decentralization are increased, because the home-office has more confidence in delegating to the local level and less to gain by making all the important decisions. Conversely, if the local managers are inexperienced or not highly effective, the MNC likely will centralize decision making and make many of the major decisions at headquarters. Furthermore, if the firm itself has a great deal of international experience, its operations will likely be more centralized as it has already exhibited a high efficiency level and increasing management decision making at the local level may slow processes.

Protection of goods and services is also important to an MNC. It would not be a very lucrative experience to spend valuable time and money on R&D processes only to have competitors successfully mimic products and essentially take away market share. For this reason and many others, it is common for MNCs to centralize operations when dealing with sophisticated levels of technology. This is particularly true for high-tech, research-intensive firms such as computer and pharmaceutical companies, which do not want their technology controlled at the local level. Furthermore, a company is likely to centralize decision-making processes when there are important brand names or patent rights involved as it wants to create as much protection as possible. For example, Ranbaxy Laboratories Ltd., one of the largest generic drug makers in the world, transferred its new drug discovery research capabilities to Japanese parent Daiichi Sankyo Co., while focusing its own efforts on generic discovery. The higher value-added and high-risk, high-return new drug research operations will be transferred to parent Daiichi Sankyo, while Ranbaxy will retain the research and development functions related to making generic drugs (Daiichi Sankyo bought a controlling stake in Ranbaxy, India's largest drug maker by revenue, in 2008).[6]

In some areas of operation, MNCs tend to retain decision making at the top (centralization); other areas fall within the domain of subsidiary management (decentralization). It is most common to find finance, R&D, and strategic planning decisions being made at MNC headquarters with the subsidiaries working within the parameters established by the home office. In addition, when the subsidiary is selling new products in growing markets, centralized decision making is more likely. As the product line matures and the subsidiary managers gain experience, however, the company will start to rely more on decentralized decision making. These decisions involve planning and budgeting systems, performance evaluations, assignment of managers to the subsidiary, and use of coordinating committees to mesh the operations of the subsidiary with the worldwide operations of the MNC. The right degree of centralized or decentralized decision making can be critical to the success of the MNC.

Deloitte, the accounting and management consulting firm, describes some of the challenges associated with postmerger integration in the area of centralization and decentralization:

> The union of two European engineering companies is a prime example of a merger that brought together companies with very different structures—a business unit of a much larger corporation and a stand-alone company. The business unit had a more decentralized management approach with responsibilities delegated within functional areas such as procurement and IT. In contrast, the stand-alone company had a more centralized approach with a strong corporate headquarters retaining control over IT, finance, procurement and HR. Bringing these two disparate structures together without reconciling these differences almost destroyed the new company. Sales plummeted and key people left, unable to adjust to the new corporate structure. Within three years the company collapsed, to be swiftly scooped up by a competitor.[7]

Cultural Differences and Comparative Examples of Decision-Making

Culture, whether outside or within the organization (see Chapters 4 and 6, respectively), has an effect on how individuals and businesses perceive situations and subsequently react. This knowledge raises the question: Do decision-making philosophies and practices differ from country to country? Research shows that to some extent they do, although there also is evidence that many international operations, regardless of foreign or domestic ownership, use similar decision-making norms.

One study showed that French and Danish managers do not approach the decision-making process in the same manner.[8] The French managers tend to spend ample time on searching for and evaluating alternatives (see Figure 11–1), exhibiting rationality and intelligence in each option. While the French approach each opportunity with a sense of creativity and logic, they tend to become quite emotionally charged rather quickly if

challenged. Middle managers report to higher-level managers who ultimately make the final decision. Therefore, the individualistic nature of the French creates an environment in which middle managers vie for the recognition and praise of the upper management. Furthermore, middle-management implementation of ideas tends to be lacking since that stage is often seen as boring, practical work which lacks the prestige managers strive to achieve. Control, discussed later in the chapter, is quite high in the French firms at every level, so where implementation fails, control will compensate.

Danish managers tend to emphasize different stages in the decision-making process (see Figure 11–1). They do not spend as much time searching or analyzing alternatives to optimize production but instead choose the option that can be started and implemented quickly and still bring about the relative desired results. They are less emotionally responsive and tend to take a straightforward approach. Danes do not emphasize control in operations, since it tends to be a sign that management lacks confidence in the areas that "require" high control. The cooperative as opposed to individualistic emphasis in Danish corporations, coupled with a results-oriented environment breeds, a situation in which decisions are made quickly and middle managers are given autonomy.

Overall, the pragmatic nature of the Danes and the French need for intellectual prowess mark why each is more adept at different stages of the decision-making process. The French tend to be better at stages 4, 5, and 9, while the Danes are more adept at stages 6, 7, and 8 (see Figure 11–1). As one Danish manager in France says:

> They [Danes and Frenchmen] do not analyze and synthesize the same way. The French tend to think that the Danes are not thorough enough, and the Danes tend to think that the French are too complicated. At his desk, the Frenchman tends to keep on working on the case. He seems to agree neither with his surroundings nor with himself. This means that when he has analyzed a case and has come to a conclusion, then he would like to go over it once more. I think that Frenchmen think in a more synthetic way . . . and he has a tendency to say: "well, yes, but what if it can still be done in another maybe smarter way." This means that in fact he is wasting time instead of making improvements.[9]

In Germany, managers focus more on productivity and quality of goods and services than on managing subordinates, which often translates into companies pursuing long-term approaches. In addition, management education is highly technical, and a legal system called **codetermination** requires workers and their managers to discuss major decisions. As a result, German MNCs tend to be fairly centralized, autocratic, and hierarchical. Scandinavian countries also have codetermination, but the Swedes focus much more on quality of work life and the importance of the individual in the organization. As a result, decision making in Sweden is decentralized and participative.

The Japanese are somewhat different from the Europeans, though they still employ a long-term focus. They make heavy use of a decision-making process called **ringisei,** or decision making by consensus. Under this system any changes in procedures and routines, tactics, and even strategies of a firm are organized by those directly concerned with those changes. The final decision is made at the top level after an elaborate examination of the proposal through successively higher levels in the management hierarchy, and results in acceptance or rejection of a decision only through consensus at every echelon of the management structure.[10]

Sometimes Japanese consensus decision making can be very time-consuming. However, in practice most Japanese managers know how to respond to "suggestions" from the top and to act accordingly—thus saving a great deal of time. Many outsiders misunderstand how Japanese managers make such decisions. In Japan, what should be done is called **tatemae,** whereas what one really feels, which may be quite different, is **honne.** Because it is vital to do what others expect in a given context, situations arise that often strike Westerners as a game of charades. Nevertheless, it is very important in Japan to play out the situation according to what each person believes others expect to happen.

Another cultural difference is how managers view time in the decision-making process. As we saw from the French-Danish example earlier, the French do not value

codetermination
A legal system that requires workers and their managers to discuss major decisions.

ringisei
A Japanese term that means "decision making by consensus."

tatemae
A Japanese term that means "doing the right thing" according to the norm.

honne
A Japanese term that means "what one really wants to do."

time as much as their counterparts. The French want to ensure that the best alternative was put into action, whereas the Danes want to act first and take advantage of opportunities. This is key in many international decision-making processes, as globalization has opened the door to extreme competition, and all players need to be able to both identify and make the most of profitable prospects.

In another study of decision making in teams composed of Swedes, Germans, and combinations of the two, researchers found Swedish teams featured higher team orientation, flatter organizational hierarchies, and more open-minded and informal work attitudes. In this study, German team members were perceived to be faster in decision making, to have clearer responsibilities for the individual, and to be more willing to accept a changed or unpopular decision. In Swedish teams, decision making appeared more transparent and less formal. On German teams, the process is largely dominated by the decision authority of an expert in the field. This is in contrast to the group decision-making style used in Swedish teams.[11]

Total Quality Management Decisions

total quality management (TQM)
An organizational strategy and the accompanying techniques that result in the delivery of high-quality products or services to customers.

To achieve world-class competitiveness, MNCs are finding that a commitment to total quality management is critical. **Total quality management (TQM)** is an organizational strategy and accompanying techniques that result in delivery of high-quality products or services to customers.[12] The concept and techniques of TQM, which were introduced in Chapter 8 in relation to strategic planning, also are relevant to decision making and controlling.

One of the primary areas where TQM is having a big impact is in manufacturing. A number of TQM techniques have been successfully applied to improve the quality of manufactured goods. One is the use of concurrent engineering/interfunctional teams in which designers, engineers, production specialists, and customers work together to develop new products. This approach involves all the necessary parties and overcomes what used to be an all-too-common procedure: The design people would tell the manufacturing group what to produce, and the latter would send the finished product to retail stores for sale to the customer. Today, MNCs taking a TQM approach are customer-driven. They use TQM techniques to tailor their output to customer needs, and they require the same approach from their own suppliers.[13] IBM followed a similar approach in developing its AS/400 computer systems. Customer advisory councils were created to provide input, test the product, and suggest refinements. The result was one of the most successful product launches in the company's history.

empowerment
The process of giving individuals and teams the resources, information, and authority they need to develop ideas and effectively implement them.

A particularly critical issue is how much decision making to delegate to subordinates. TQM uses employee **empowerment.** Individuals and teams are encouraged to generate and implement ideas for improving quality, and are given the decision-making authority and necessary resources and information to implement them. Many MNCs have had outstanding success with empowerment. For example, General Electric credits employee empowerment for cutting in half the time needed to change product-mix production of its dishwashers in response to market demand.

Another TQM technique that is successfully employed by MNCs is rewards and recognition. These range from increases in pay and benefits to the use of merit pay, discretionary bonuses, pay-for-skills and knowledge plans, plaques, and public recognition. The important thing to realize is that the rewards and recognition approaches that work well in one country may be ineffective in another. For example, individual recognition in the U.S. may be appropriate and valued by workers, but in Japan, group rewards are more appropriate as Japanese do not like to be singled out for personal praise. Similarly, although putting a picture or plaque on the wall to honor an individual is common practice in the United States, these rewards are frowned on in Finland, for they remind the workers that their neighbors, the Russians, used this system to encourage people to increase output (but not necessarily quality), and while the Russian economy is beginning to make headway, it was once in shambles in part due to poor decision making.

Table 11–2	
The Emergence of New Beliefs Regarding Quality	
Old Myth	**New Truth**
Quality is the responsibility of the people in the Quality Control Department.	Quality is everyone's job.
Training is costly.	Training does not cost; it saves.
New quality programs have high initial costs.	The best quality programs do not have up-front costs.
Better quality will cost the company a lot of money.	As quality goes up, costs come down.
The measurement of data should be kept to a minimum.	An organization cannot have too much relevant data on hand.
It is human to make mistakes.	Perfection—total customer satisfaction—is a standard that should be vigorously pursued.
Some defects are major and should be addressed, but many are minor and can be ignored.	No defects are acceptable, regardless of whether they are major or minor.
Quality improvements are made in small, continuous steps.	In improving quality, both small and large improvements are necessary.
Quality improvement takes time.	Quality does not take time; it saves time.
Haste makes waste.	Thoughtful speed improves quality.
Quality programs are best oriented toward areas such as products and manufacturing.	Quality is important in all areas, including administration and service.
After a number of quality improvements, customers are no longer able to see additional improvements.	Customers are able to see all improvements, including those in price, delivery, and performance.
Good ideas can be found throughout the organization.	Good ideas can be found everywhere, including in the operations of competitors and organizations providing similar goods and services.
Suppliers need to be price competitive.	Suppliers need to be quality competitive.

Source: Reported in Richard M. Hodgetts, *Measures of Quality and High Performance* (New York: American Management Association, 1998), p. 14.

Still another technique associated with TQM is the use of ongoing training to achieve continual improvement. This training takes a wide variety of forms, ranging from statistical quality control techniques to team meetings designed to generate ideas for streamlining operations and eliminating waste. In all cases, the objective is to apply what the Japanese call **kaizen,** or continuous improvement. By adopting a TQM perspective and applying the techniques discussed earlier, MNCs find that they can both develop and maintain a worldwide competitive edge. A good example is Zytec, the world-class, Minnesota-based manufacturer of power supplies. The customer base for Zytec ranges from the United States to Japan to Europe. One way in which the firm ensures that it maintains a total quality perspective is to continually identify client demands and then work to exceed these expectations. Another is to totally revise the company's philosophy and beliefs regarding what quality is all about and how it needs to be implemented. Table 11–2 provides some examples of the new thinking that is now emerging regarding quality.

kaizen
A Japanese term that means "continuous improvement."

Toyota's recent challenges with safety recalls have prompted the firm to integrate the term "kaizen" in its North American marketing initiatives designed to reassure the public about Toyota's commitment to safety. In one commercial, a worker says, "Kaizen is a real core principle at Toyota, and it means continuous improvement." The concept is so integral to Toyota's culture and ethos, the firm felt it necessary to share it with the general public as a means to restore trust and confidence in the company.[14]

Indirectly related to TQM is ISO 9000, International Standards Organization (ISO) certification, to ensure quality products and services. Areas that are examined by the ISO certification team include design (product or service specifications), process control (instruction for manufacturing or service functions), purchasing, service (e.g., instructions for conducting after-sales service), inspection and testing, and training. ISO 9000

For many years, Kodak used various strategies to gain market share. Several years ago, in a short-term attempt to expand growth in Japan, Kodak filed a complaint with the U.S. government, accusing its main competitor, Fuji, of blocking Kodak products from the Japanese market. Since that time, Kodak has focused on long-term efforts that, in this technological age, will require fine tuning at every turn.

First, Kodak attempted to corner the camera market by creating inexpensive cameras that utilized digital imagery. Creating cameras that produced high-quality photos without the need to purchase film or go through the process of getting the pictures developed would seemingly have allowed Kodak to surpass its competitors and create a niche. Big changes were necessary in order to implement these ideas. First, Kodak had to accept that its traditional film sales would diminish greatly, and management needed to reorganize and redirect the business. A digital imaging unit was created, pooling the firm's digital talent into one division. Disposable camera offerings were expanded to include underwater, panoramic, and telephoto options. The company acquired Ofoto Inc., an online photography service, to expand operations. Kodak hoped these investments would prove to be lucrative, but the future was uncertain.

Unfortunately, the company did not excel in digital camera sales and other poor choices simply made expansion more difficult for the firm. Generating research and development breakthroughs proved to be challenging, as illustrated by Kodak's unsuccessful effort to market a photo CD. This product required that users purchase a unit that could plug into a TV for $500, and the unit itself cost $20 per CD. The sole function was to be able to view photos from the CD on your television, which consumers did not find beneficial, though some companies did purchase the package.

Despite failed attempts in certain digital technologies and a series of losses that led to numerous job cuts, Kodak refused to yield. The company sold its health care business in order to increase revenue, and its film group has benefited from movie-film growth. Currently, Kodak is taking advantage of the growing market of digital photo printing and installing kiosks in Walmart, the world's largest photo processor. The plan only focuses on the U.S. market for now, where Kodak is already the leader in digital-photo kiosks, with 80,000 units already in place. Kodak has also manufactured a new home ink-jet printer that uses less expensive ink than competitors. If this project is successful, then Kodak will certainly have the market on home-office printing technology.

Kodak's online EasyShare Gallery (formerly Ofoto) has been rated number one in print quality by such reviewers as *PC World*. The service offers superior storing and sharing of photos and allows consumers to order customized prints with ease, ranging in specs from delivery options to photo size. The company also created a new digital camera that can wirelessly communicate with printers and the Internet, which means that pictures can be sent to friends, family, online photo galleries, or a home printer at the touch of a button. While Kodak may have had issues transitioning from film to digital cameras, management hopes that the superior photo quality and online technological advances will secure its own new corner in the market.

certification is becoming a necessary prerequisite to doing business in the EU, but it also is increasingly used as a screening criterion for bidding on contracts or getting business in the United States and other parts of the world.

Decisions for Attacking the Competition

Another series of key decisions relates to MNC actions that are designed to attack the competition and gain a foothold in world markets. The nearby International Management in Action, "Kodak's Corner," gives an example. Another is General Motors' decision to establish production operations on a worldwide basis and to be a major player throughout Asia, Australia, Europe, and South America, as well as in select areas of Africa. As a result of this decision, the company is now closing U.S. factories and building new assembly plants abroad. Between 1995 and 1999 GM opened a host of new international facilities, including a plant in Brazil that has an annual capacity of 120,000 units, as well as factories in Poland, India, Mexico, Thailand, and Shanghai, each of which has annual capacity of 100,000 units. By locating closer to the final customer and offering a well-designed and efficiently built car, the company has been able to increase its worldwide market share, thus more than offsetting the downturn it has encountered in the U.S. market, where overall share has dropped below 30 percent.

Another example of decision making for attacking the competition is provided by BMW. While GM is trying to tap the upper market, BMW has made the decision to move down the line and gain small-car market share. The company is building small cars with a sales price in the range of $20,000. By sharing engines, gearboxes, and electrical systems from its other offerings, the firm intends to reduce its development and production costs and offer a reliable and competitively priced auto.[15] Other firms, including Mercedes and Audi, have done this and have not been particularly profitable, but BMW believes that it can succeed where they have not. BMW's introduction of the MINI Cooper is an interesting example of the integration of efficiency, sportiness, and nostalgia.

NEC offers a further example of how decision making is being used for attacking the competition. In 2001 the company held 8 percent of the world market for mobile transmitting infrastructure and was vying with major competitors such as Ericsson, Lucent, Nokia, and Nortel. Most of NEC's revenues come from its contracts with NTT, Japan's phone monopoly. However, the company is moving aggressively into the world-wide arena. Its prowess in fiber optics resulted in its winning a big AT&T network installation contract, and as the demand for fiber optics increases, NEC intends to exploit this strength.[16] The firm recently announced that it had developed a fiber-optic cable that is four times more powerful than that currently on the market. The company is also a world leader in manufacturing mobile handsets and the semiconductors used in mobiles and other devices. Its folding phones, for example, account for 40 percent of the Internet-capable handset market in Japan, and NEC is looking to expand its international sales of these products.

Intel has made a number of interesting decisions designed to stymie the competition. One is to bring out a new version of its Pentium chip at a much lower-than-expected price and cut the prices of its other chips, thus creating a strong demand for its products and forcing competitors to cut their prices. In a market where overall demand has been slow-ing, this strategy wreaks havoc on the competition. At the same time, lower prices mean that Intel must sell more products in order to increase revenues. One of the ways in which the firm is trying to do this is with an extension of its Xeon microprocessor family, which is aimed at more powerful desktop workstations and server systems than the firm has targeted in the past. Intel's server offerings generally were used in relatively lightweight machines such as those that serve up Web pages. This new push is designed to provide chips that are used in midsize servers, such as those that run databases, as well as in some larger systems used in mission-critical tasks. These machines typically cost millions of dollars and run on dozens of microprocessors operating in parallel.[17] The company also teamed up with Hewlett-Packard to develop the Itanium chip, which offers greater speed because it can process 64 bits of data at a time rather than 32 bits. Working with HP, Intel is building servers for telecommunications and making three-in-one chips that have the ability to radically reduce the size of cell phones and handheld computers.

■ Decision and Control Linkages

Decision making and **controlling** are two vital and often interlinked functions of inter-national management. As an example of a company struggling with control issues, Siemens has long been praised for its engineering abilities, but its slow market response has left the company struggling to reach internal earnings targets, which it has fallen short of for years. Klaus Kleinfeld took over as CEO in 2005 in a move to change man-agement and improve profits. Almost immediately, Kleinfeld was able to encourage faster decision-making processes and stressed a customer spotlight as passionate as Siemens's technology focus. This proved successful, as 2006 sales increased by 16 percent and profits by 35 percent. There have been ongoing discussions about expansion, including building cement plants in Yemen and improving plants in Russia. Most would believe that the German company would have been pleased by the turn of events, but the U.S. man-agement style that Kleinfeld employed did not sit well with the parent company, especially

controlling
The process of evaluating results in relation to plans or objectives and deciding what action, if any, to take.

as questions arose over specific growth strategies. The culture clash led to Kleinfeld stepping down, but not before a foundation of change was implemented. Whether the company returns to slow responses and lack of control is something only time can tell, but Siemens's taste of success may be enough to sustain its new aggressive posture.[18]

Another example of how the control function plays out is Universal Studios Japan. To attract visitors to the Osaka location, this new theme park was specially built based on feedback from Japanese tourists at Universal parks in Orlando and Los Angeles. The company wanted to learn what these visitors liked and disliked and then use this information in its Osaka park. One theme clearly emerged: The Japanese wanted an authentic American experience but also expected the park to cater to their own cultural preferences. In the process of controlling the creation of the new park, thousands of decisions were made regarding what to include and what to leave out. For example, seafood pizza and gumbo-style soup were put on the menu, but a fried-shrimp concoction with colored rice crackers was rejected. It was decided that in a musical number based on the movie *Beetlejuice,* the main character should talk in Japanese and his sidekicks would speak and sing in English. The decision to put in a restaurant called Shakin's, based on the 1906 San Francisco earthquake, turned out to be not a good idea because Osaka has had terrible earthquakes that killed thousands of people.
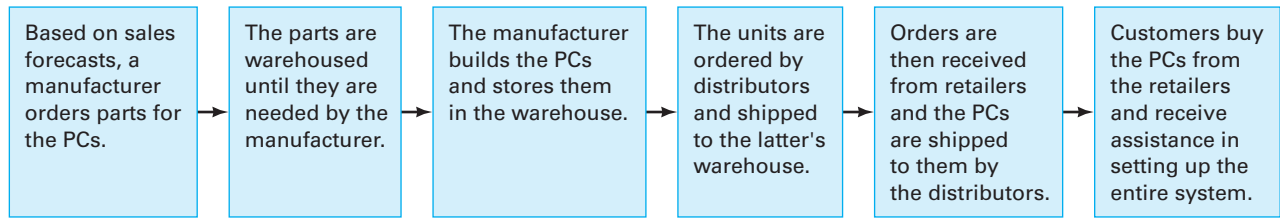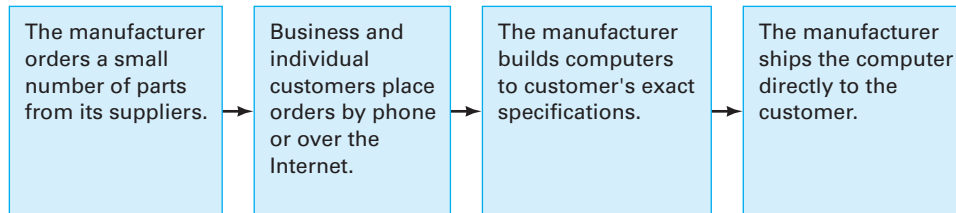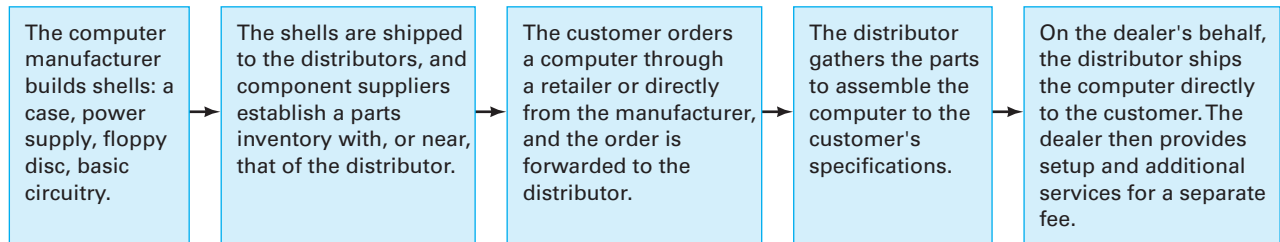
Other decisions were made to give the "American" park a uniquely Japanese flavor. The nation's penchant for buying edible souvenirs inspired a 6,000-square-foot confection shop packed with Japanese sweets such as dinosaur-shaped bean cakes. Restrooms include Japanese-style squat toilets. Even the park layout caters to the tendency of Japanese crowds to flow clockwise in an orderly manner, contrary to more chaotic U.S. crowds that steer right. And millions of dollars were spent on the Jurassic Park water slide to widen the landing pond, redesign boat hulls, and install underwater wave-damping panels to reduce spray. Why? Many fastidious Japanese don't like to get wet, even on what's billed as one of the world's biggest water slide.[19]

Over the next few years, as Universal Studios Japan evaluates park revenues and feedback from visitors, it will be able to judge how well it is doing in giving customers an American experience in an environment that also addresses local cultural considerations. After a period of reduced attendance, the company has discovered that creating an emotional connection between the consumer and the park, instead of focusing on the power of Hollywood, encourages people to frequent the park. The quick and adept response to profit losses shows that management has a concrete idea of how to deal with other cultures. In fact, plans are already in place to open Universal Studios in Dubai, Singapore, and South Korea.[20] (See related discussion in the case at end of Part Two on Disney in Asia.)

■ The Controlling Process

As we've stated, controlling involves evaluating results in relation to plans or objectives and deciding what action to take next. An excellent illustration of this process was Mitsubishi's purchase of 80 percent of Rockefeller Center in the late 1980s. The Japanese firm paid $1.4 billion for this choice piece of Manhattan real estate, and it looked like a very wise decision. Over the next six years, however, depressed rental prices and rising maintenance costs resulted in Mitsubishi sinking an additional $500 million into the project. Finally, in late 1995, the company decided it had had enough and announced that it was walking away from the investment. Mitsubishi passed ownership to Rockefeller Center Properties Inc., the publicly traded real-estate investment trust that held the mortgage on the center. The cost of keeping the properties was too great for the Japanese firm, which decided to cut its losses and focus efforts on more lucrative opportunities elsewhere.

The control process is of course crucial for MNCs in the fast-moving personal computer (PC) business. Until the mid-1990s, PCs were built using the traditional model

Figure 11–2 | **Models of PC Manufacturing**

Traditional Model

Based on sales forecasts, a manufacturer orders parts for the PCs.	The parts are warehoused until they are needed by the manufacturer.	The manufacturer builds the PCs and stores them in the warehouse.	The units are ordered by distributors and shipped to the latter's warehouse.	Orders are then received from retailers and the PCs are shipped to them by the distributors.	Customers buy the PCs from the retailers and receive assistance in setting up the entire system.

Direct-Sales Model

The manufacturer orders a small number of parts from its suppliers.	Business and individual customers place orders by phone or over the Internet.	The manufacturer builds computers to customer's exact specifications.	The manufacturer ships the computer directly to the customer.

Hybrid Model

The computer manufacturer builds shells: a case, power supply, floppy disc, basic circuitry.	The shells are shipped to the distributors, and component suppliers establish a parts inventory with, or near, that of the distributor.	The customer orders a computer through a retailer or directly from the manufacturer, and the order is forwarded to the distributor.	The distributor gathers the parts to assemble the computer to the customer's specifications.	On the dealer's behalf, the distributor ships the computer directly to the customer. The dealer then provides setup and additional services for a separate fee.

shown in Figure 11–2. Today the direct-sales model and the hybrid model are the most common (see Figure 11–2). PC firms are finding that they must keep on the cutting edge more than any other industry because of the relentless pace of technological change. This is where the control function becomes especially critical for success. For example, stringent controls keep the inventory in the system as small as possible. PCs are manufactured using a just-in-time approach (a customer orders the unit and has it made to specifications) or an almost just-in-time approach (a retailer orders 30 units and sells them all within a few weeks). Because technology in the PC industry changes so quickly, any units that are not sold in retail outlets within 60 days may be outdated and must be severely discounted and sold for whatever the market will bear. In turn, these costs are often assumed by the manufacturer. As a result, PC manufacturers are very much inclined to build to order or to ship in quantities that can be sold quickly. In this way the firm's control system helps ensure that inventory moves through the system profitably.[21]

Of particular interest is how companies attempt to control their overseas operations to become integrated, coordinated units. A number of control problems may arise: (1) The objectives of the overseas operation and the corporation conflict. (2) The objectives of joint-venture partners and corporate management are not in accord. (3) Degrees of experience and competence in planning vary widely among managers running the various overseas units. (4) Finally, there may be basic philosophic disagreements about the objectives and policies of international operations, largely because of cultural differences between home- and host-country managers. The following discussion examines the various types of control that are used in international operations and the approaches that are often employed in dealing with typical problems.

Types of Control

There are two common, complementary ways of looking at how MNCs control operations. One way is by determining whether the enterprise chooses to use *internal* or *external* control in devising its overall strategy. The other is by looking at the ways in which the organization uses *direct* and *indirect* controls.

Internal and External Control   From an internal control standpoint, an MNC will focus on the things that it does best. At the same time, of course, management wants to ensure that there is a market for the goods and services that it is offering. So the company first needs to find out what the customers want and be prepared to respond appropriately. This requires an external control focus. Naturally, every MNC will give consideration to both internal and external perspectives on control. However, one is often given more attention than the other. In explaining this idea, Trompenaars and Hampden-Turner set forth four management views regarding how a control strategy should be devised and implemented:

1. No one dealing with customers is without a strategy of sorts. Our task is to find out which of these strategies work, which don't, and why. Devising our own strategy in the abstract and imposing it downwards only spreads confusion.
2. No one dealing with customers is without a strategy of sorts. Our task is to find out which of these strategies work and then create a master strategy from proven successful initiatives by encouraging and combining the best.
3. To be a leader is to be the chief deviser of strategy. Using all the experience, information, and intelligence we can mobilize, we need to devise an innovative strategy and then cascade it down the hierarchy.
4. To be a leader is to be the chief deviser of strategy. Using all the experience, information, and intelligence we can mobilize, we must create a broad thrust, while leaving it to subordinates to fit these to customer needs.

Trompenaars and Hampden-Turner ask managers to rank each of these four statements by placing a "1" next to the one they feel would most likely be used in their company, a "2" next to the second most likely, on down to a "4" next to the one that would be the last choice. This ranking helps managers better see whether they use an external or an internal control approach. Answer 1 focuses most strongly on an external-directed approach and rejects the internal control option. Answer 3 represents the opposite. Answer 2 affirms a connection between an external-directed strategy and an inner-directed one, whereas answer 4 does the opposite.[22]

Cultures differ in the control approach they use. For example, among U.S. MNCs it is common to find managers using an internal control approach. Among Asian firms an external control approach is more typical. Table 11–3 provides some contrasts between the two.

direct controls
The use of face-to-face or personal meetings for the purpose of monitoring operations.

Direct Controls   **Direct controls** involve the use of face-to-face or personal meetings to monitor operations. A good example is how International Telephone and Telegraph (ITT) holds monthly management meetings at its New York headquarters. These meetings are run by the CEO of the company, and reports are submitted by each ITT unit manager throughout the world. Problems are discussed, goals set, evaluations made, and actions taken that will help the unit improve its effectiveness.

Another common form of direct control is visits by top executives to overseas affiliates or subsidiaries. During these visits, top managers can learn firsthand the problems and challenges facing the unit and offer assistance.

A third form is the staffing practices of MNCs. By determining whom to send overseas to run the unit, the corporation can directly control how the operation will be run. The company will want the manager to make operating decisions and handle day-to-day matters, but the individual also will know which decisions should be cleared with

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Table 11–3
The Impact of Internal- and External-Oriented Cultures on the Control Process

Key Differences Between . . .

Internal Control	External Control
Often dominating attitude bordering on aggressiveness toward the environment.	Often flexible attitude, willing to compromise and keep the peace.
Conflict and resistance mean that a person has convictions.	Harmony, responsiveness, and sensibility are encouraged.
The focus is on self, function, one's own group, and one's own organization.	The focus is on others such as customers, partners, and colleagues.
There is discomfort when the environment seems "out of control" or changeable.	There is comfort with waves, shifts, and cycles, which are regarded as "natural."

Tips for Doing Business with . . .

Internally Controlled (for externals)	Externally Controlled (for internals)
Playing "hardball" is legitimate to test the resilience of an opponent.	Softness, persistence, politeness, and long patience will get rewards.
It is most important to "win your objective."	It is most important to maintain one's relationships with others.
Win some, lose some.	Win together, lose apart.

Source: Adapted from Fons Trompenaars and Charles Hampden-Turner, *Riding the Waves of Culture: Understanding Diversity in Global Business,* 2nd ed. (New York: McGraw-Hill, 1998), pp. 160–161.

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the home office. In fact, this approach to direct control sometimes results in a manager who is more responsive to central management than to the needs of the local unit.

And finally, a fourth form is the organizational structure itself. By designing a structure that makes the unit highly responsive to home-office requests and communications, the MNC ensures that all overseas operations are run in accord with central management's desires. This structure can be established through formal reporting relationships and chain of command (who reports to whom).

Indirect Controls **Indirect controls** involve the use of reports and other written forms of communication to control operations. One of the most common examples is the use of monthly operating reports that are sent to the home office. Other examples, which typically are used to supplement the operating report, include financial statements, such as balance sheets, income statements, cash budgets, and financial ratios that provide insights into the unit's financial health. The home office will use these operating and financial data to evaluate how well things are going and make decisions regarding necessary changes. Three sets of financial statements usually are required from subsidiaries: (1) statements prepared to meet the national accounting standards and procedures prescribed by law and other professional organizations in the host country; (2) statements prepared to comply with the accounting principles and standards required by the home country; and (3) statements prepared to meet the financial consolidation requirements of the home country.

Indirect controls are particularly important in international management because of the great expense associated with direct methods of control. Typically, MNCs will use indirect controls to monitor performance on a monthly basis, whereas direct controls are used semi-annually or annually. This dual approach often provides the company with effective control of its operations at a price that also is cost-effective.

indirect controls
The use of reports and other written forms of communication to control operations.

Approaches to Control

International managers can employ many different approaches to control. These approaches typically are dictated by the MNC's philosophy of control, the economic

environment in which the overseas unit is operating, and the needs and desires of the managerial personnel who staff the unit. Working within control parameters, MNCs will structure their processes so that they are as efficient and effective as possible. Typically, the tools used will give the unit manager the autonomy needed to adapt to changes in the market as well as to attract competent local personnel. These tools will also provide for coordination of operations with the home office, so that the overseas unit operates in harmony with the MNC's overall strategic plan.

Some control tools are universal. For example, all MNCs use financial tools in monitoring overseas units. This was true as long as three decades ago, when the following was reported:

> The cross-cultural homogeneity in financial control is in marked contrast to the heterogeneity exercised over the areas of international operations. American subsidiaries of Italian and Scandinavian firms are virtually independent operationally from their parents in functions pertaining to marketing, production, and research and development; whereas, the subsidiaries of German and British firms have limited freedom in these areas. Almost no autonomy on financial matters is given by any nationality to the subsidiaries.[23]

Some Major Differences   MNCs control operations in many different ways, and these often vary considerably from country to country. For example, how British firms monitor their overseas operations often is different from how German or French firms do. Similarly, U.S. MNCs tend to have their own approach to controlling, and it differs from both European and Japanese approaches. When Horovitz examined the key characteristics of top management control in Great Britain, Germany, and France, he found that British controls had four common characteristics: (1) Financial records were sophisticated and heavily emphasized. (2) Top management tended to focus its attention on major problem areas and did not get involved in specific, detailed matters of control. (3) Control was used more for general guidance than for surveillance. (4) Operating units had a large amount of marketing autonomy.[24]

This model was in marked contrast to that of German managers, who employed very detailed control and focused attention on all variances large and small. These managers also placed heavy control on the production area and stressed operational efficiency. In achieving this centralized control, managers used a large central staff for measuring performance, analyzing variances, and compiling quantitative reports for senior executives. Overall, the control process in the German firms was used as a policing and surveillance instrument. French managers employed a control system that was closer to that of the Germans than to the British. Control was used more for surveillance than for guiding operations, and the process was centrally administered. Even so, the French system was less systematic and sophisticated.[25]

How do U.S. MNCs differ from their European counterparts? One comparative study found that a major difference is that U.S. firms tend to rely much more heavily on reports and other performance-related data. Americans make greater use of output control, and Europeans rely more heavily on behavioral control. Commenting on the differences between these two groups, the researcher noted: "This pattern appears to be quite robust and continues to exist even when a number of common factors that seem to influence control are taken into account."[26] Some specific findings from this study include:

1. Control in U.S. MNCs focuses more on the quantifiable, objective aspects of a foreign subsidiary, whereas control in European MNCs tends to be used to measure more qualitative aspects. The U.S. approach allows comparative analyses between other foreign operations as well as domestic units; the European measures are more flexible and allow control to be exercised on a unit-by-unit basis.
2. Control in U.S. MNCs requires more precise plans and budgets in generating suitable standards for comparison. Control in European MNCs requires a

high level of companywide understanding and agreement regarding what constitutes appropriate behavior and how such behavior supports the goals of both the subsidiary and the parent firm.

3. Control in U.S. MNCs requires large central staffs and centralized information-processing capability. Control in European MNCs requires a larger cadre of capable expatriate managers who are willing to spend long periods of time abroad. This control characteristic is reflected in the career approaches used in the various MNCs. Although U.S. multinationals do not encourage lengthy stays in foreign management positions, European MNCs often regard these positions as stepping-stones to higher offices.

4. Control in European MNCs requires more decentralization of operating decision making than does control in U.S. MNCs.

5. Control in European MNCs favors short vertical spans or reporting channels from the foreign subsidiary to responsible positions in the parent.[27]

As noted in the discussion of decision making, these differences help explain why many researchers have found European subsidiaries to be more decentralized than U.S. subsidiaries. Europeans rely on the managerial personnel they assign from headquarters to run the unit properly. Americans tend to hire a greater percentage of local management people and control operations through reports and other objective, performance-related data. The difference results in Europeans' relying more on socio-emotional control systems and Americans' opting for task-oriented, objective control systems.

Evaluating Approaches to Control   Is one control approach any better than the other? The answer is that each seems to work best for its respective group. Some studies predict that as MNCs increase in size, they likely will move toward the objective orientation of the U.S. MNCs. Commenting on the data gathered from large German and U.S. MNCs, two researchers concluded:

> Control mechanisms have to be harmonized with the main characteristics of management corporate structure to become an integrated part of the global organization concept and to meet situational needs. Trying to explain the differences in concepts of control, we have to consider that the companies of the U.S. sample were much larger and more diversified. Accordingly, they use different corporate structures, combining operational units into larger units and integrating these through primarily centralized, indirect, and task-oriented control. The German companies have not (yet) reached this size and complexity, so a behavioral model of control seems to be fitting.[28]

So in deciding which form of control to use, MNCs must determine whether they want a more bureaucratic or a more cultural control approach; and from the cultural perspective, it must be remembered that this control will vary across subsidiaries.

■ Performance Evaluation as a Mechanism of Control

A number of performance measures are used for control purposes. Three of the most common evaluate financial performance, quality performance, and personnel performance.

Financial Performance

Financial performance evaluation of a foreign subsidiary or affiliate is usually based on profit and loss, and return on investment. **Profit** and loss (P&L) is the amount remaining after all expenses are deducted from total revenues. **Return on investment** (ROI) is measured by dividing profit by assets; some firms use profit divided by owners' equity (return on owners' investment, or ROOI) in referring to the return-on-investment performance measure. In any case, the most important part of the ROI calculation is profits, which often can be manipulated by management. Thus, the amount of profit directly

profit
The amount remaining after all expenses are deducted from total revenues.

return on investment (ROI)
Return measured by dividing profit by assets.

relates to how well or how poorly a unit is judged to perform. For example, if an MNC has an operation in both country A and country B and taxes are lower in country A, the MNC may be able to benefit if the two units have occasion to do business with each other. This benefit can be accomplished by having the unit in country A charge higher prices than usual to the unit in country B, thus providing greater net profits to the MNC. Simply put, sometimes differences in tax rates can be used to maximize overall MNC profits. This same basic form of manipulation can be used in transferring money from one country to another, which can be explained as follows:

> Transfer prices are manipulated upward or downward depending on whether the parent company wishes to inject or remove cash into or from a subsidiary. Prices on imports by a subsidiary from a related subsidiary are raised if the multinational company wishes to move funds from the receiver to the seller, but they are lowered if the objective is to keep the funds in the importing subsidiary. . . . Multinational companies have been known to use transfer pricing for moving excess cash from subsidiaries located in countries with weak currencies to countries with strong currencies in order to protect the value of their current assets.[29]

The so-called bottom-line (i.e., profit or loss) performance of subsidiaries also can be affected by a devaluation or revaluation of local currency. For example, if a country devalues its currency, then subsidiary export sales will increase, because the price of these goods will be lower for foreign buyers, whose currencies now have greater purchasing power. If the country revalues its currency, then export sales will decline because the price of goods for foreign buyers will rise, since their currencies now have less purchasing power in the subsidiary's country. Likewise, a devaluation of the currency will increase the cost of imported materials and supplies for the subsidiary, and a revaluation will decrease these costs because of the relative changes in the purchasing power of local currency. Because devaluation and revaluation of local currency are outside the control of the overseas unit, bottom-line performance sometimes will be a result of external conditions that do not accurately reflect how well the operation actually is being run, which should be considered when evaluating a subsidiary's performance.

Of course, not all bottom-line financial performance is a result of manipulation or external economic conditions. Frequently, other forces account for the problem. For example, one of Volkswagen's goals for a recent year was to earn a pre-tax 6.5 percent on revenues. The firm fell far short of this goal, earning only 3.5 percent before taxes. One reason for this poor performance was that labor costs in Lower Saxony, where approximately half its workforce is located, are very high. Workers here produce only 40 vehicles per employee annually in contrast to the VW plant in Navarra, Spain, which turns out 79 vehicles per employee per year. Why doesn't VW move work to lower-cost production sites? The major reason is that the state of Lower Saxony owns 19 percent of the company's voting stock, so the workers' jobs are protected.[30] Simply put, relying solely on financial results to evaluate performance can result in misleading conclusions.

Quality Performance

Just as quality has become a major focus in decision making, it also is a major dimension of the modern control process of MNCs. The term *quality control (QC)* has been around for a long time, and it is a major function of production and operations management. Besides the TQM techniques of concurrent engineering/interfunctional teams, employee empowerment, reward/recognition systems, and training, discussed earlier in this chapter in the context of decision making, another technique more directly associated with the control function is the use of quality circles, which have been popularized by the Japanese. A **quality control circle (QCC)** is a group of workers who meet on a regular basis to discuss ways of improving the quality of work. This approach has helped many MNCs improve the quality of their goods and services dramatically.

Why are Japanese-made goods of higher quality than the goods of many other countries? The answer cannot rest solely on technology, because many MNCs have the same or superior technology, or the financial ability to purchase it. There must be other causal

quality control circle (QCC)
A group of workers who meet on a regular basis to discuss ways of improving the quality of work.

How the Japanese Do Things Differently

Japanese firms do a number of things extremely well. One is to train their people carefully, a strategy that many successful U.S. firms also employ. Another is to try to remain on the technological cutting edge. A third, increasingly important because of its uniqueness to the Japanese, is to keep a keen focus on developing and bringing to market goods that are competitively priced.

In contrast to Western firms, many Japanese companies use a "target cost" approach. Like other multinational firms, Japanese companies begin the new product development process by conducting marketing research and examining the characteristics of the product to be produced. At this point, however, the Japanese take a different approach. The traditional approach used by MNCs around the world is next to go into designing, engineering, and supplier pricing and then to determine if the cost is sufficiently competitive to move ahead with manufacturing. Japanese manufacturers, in contrast, first determine the price that the consumer most likely will accept, and then they work with design, engineering, and supply people to ensure that the product can be produced at this price. The other major difference is that after most firms manufacture a product, they will engage in periodic cost reductions. The Japanese, however, use a kaizen approach, which fosters continuous cost-reduction efforts.

The critical difference between the two systems is that the Japanese get costs out of the product during the planning and design stage. Additionally, they look at profit in terms of product lines rather than just individual goods, so a consumer product that would be rejected for production by a U.S. or European firm because its projected profitability is too low may be accepted by a Japanese firm because the product will attract additional customers to other offerings in the line. A good example is Sony, which decided to build a smaller version of its compact personal stereo system and market it to older consumers. Sony knew that the profitability of the unit would not be as high as usual, but it went ahead because the product would provide another market niche for the firm and strengthen its reputation. Also, a side benefit is that once a product is out there, it may appeal to an unanticipated market. This was the case with Sony's compact personal stereo system. The unit caught on with young people, and Sony's sales were 50 percent greater than anticipated. Had Sony based its manufacturing decision solely on "stand-alone" profitability, the unit never would have been produced.

These approaches are not unique to Japanese firms. Foreign companies operating in Japan are catching on and using them as well. Coca-Cola Japan is the leading company in the Japanese soft drink market, which sees the introduction of more than 1,000 new products each year. Most offerings do not last very long, and a cost accountant might well argue that it is not worth the effort to produce them. However, Coca-Cola introduces one new product a month. Most of these sodas, soft drinks, and cold coffees survive less than 90 days, but Coke does not let the short-term bottom line dictate the decision. The firm goes beyond quick profitability and looks at the overall picture. Result: Coca-Cola continues to be the leading soft drink firm in Japan despite competition that often is more vigorous than that in the United States.

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factors. International Management in Action, "How the Japanese Do Things Differently," gives some details about these factors. One study attempted to answer the question by examining the differences between Japanese and U.S. manufacturers of air conditioners.[31] In this analysis, many of the commonly cited reasons for superior Japanese quality were discovered to be inaccurate. So what were the reasons for the quality differences?

One reason was the focus on keeping the workplace clean and ensuring that all machinery and equipment were properly maintained. The Japanese firms were more careful in handling incoming parts and materials, work-in-process, and finished products than their U.S. counterparts. Japanese companies also employed equipment fixtures to a greater extent than did U.S. manufacturers in ensuring proper alignment of parts during final assembly.

The Japanese minimized worker error by assigning new employees to existing work teams or pairing them with supervisors. In this way, the new workers gained important experience under the watchful eye of someone who could correct their mistakes.

Another interesting finding was that the Japanese made effective use of QCCs. Quality targets were set, and responsibility for their attainment then fell on the circle while management provided support assistance. This was stated by the researcher as follows:

> In supporting the activities of their QCCs, the Japanese firms in this industry routinely collected extensive quality data. Information on defects was compiled daily, and analyzed for trends. Perhaps most important, the data were made easily accessible to line workers, often in the form of publicly posted charts. More detailed data were available to QCCs on request.[32]

This finding pointed out an important difference between Americans and Japanese. The Japanese pushed data on quality down to the operating employees in the quality circles, whereas Americans tended to aggregate the quality data into summary reports aimed at middle and upper management.

Another important difference is that the Japanese tend to build in early warning systems so that they know when something is going wrong. Incoming field data, for example, are reviewed immediately by the quality department, and problems are assigned to one of two categories: routine or emergency. Special efforts then are made to resolve the emergency problems as quickly as possible. High failure rates attributable to a single persistent problem are identified and handled much faster than they would be in U.S. firms. Still another reason is that the Japanese work closely with their suppliers so that the latter's quality increases. In fact, research shows that among suppliers that have contracts with both American and Japanese auto plants in the United States, the Japanese plants get higher performance from their suppliers than do the Americans.[33] The Japanese are able to accomplish this because they work closely with their suppliers and help them develop lean manufacturing capabilities. Some of the steps that Japanese manufacturers take in doing this include (1) leveling their own production schedules in order to avoid big spikes in demand, thus allowing their suppliers to hold less inventory; (2) encouraging their suppliers to ship only what is needed by the assembly plant at a particular time, even if this means sending partially filled trucks; and (3) creating a disciplined system of delivery time windows during which all parts have to be received at the delivery plant. A close look at Table 11–4 shows that the 91 suppliers who were working for both Japanese and American auto firms performed more efficiently for their Japanese customers than for their American customers.

Management attitudes toward quality also were quite different. The Japanese philosophy is: "Anything worth doing in the area of quality is worth overdoing." Workers are trained for all jobs on the line, even though they eventually are assigned

Table 11–4
Performance of Suppliers When Serving U.S.- and Japanese-Owned Auto Plants

Performance Indicators	Chrysler Suppliers (n = 26)	Ford Suppliers (n = 42)	GM Suppliers (n = 23)	Honda Suppliers (n = 22)	Nissan Suppliers (n = 16)	Toyota Suppliers (n = 37)
Inventory turnover	28.3	24.4	25.5	38.4	49.2	52.4
Work-in-process	3.0	3.9	7.2	4.0	3.8	3.0
Finished-goods storage time	4.8	5.4	6.6	5.3	4.9	3.2
Inventory on the truck	2.1	4.5	2.6	2.8	2.08	1.61
Inventory maintained at the customer's site	3.5	4.8	3.1	4.0	2.8	2.3
Percentage change in manufacturing costs compared to the previous year	0.69%	0.58%	0.74%	−0.9%	−0.7%	−1.3%
Percentage of late deliveries	4.4%	7.70%	3.04%	2.11%	1.08%	0.44%
Emergency shipping cost (per million sales dollars) in previous year	$1,235	$446	$616	$423	$379	$204

Source: Adapted from Jeffrey K. Liker and Yen-Chun Wu, "Japanese Automakers, U.S. Suppliers and Supply-Chain Superiority," *Sloan Management Review,* Fall 2000, p. 84.

to a single workstation. This method of "training overkill" ensures that everyone can perform every job perfectly and results in two important outcomes: (1) If someone is moved to another job, he or she can handle the work without any additional assistance. (2) The workers realize that management puts an extremely high value on the need for quality. When questioned regarding whether their approach to quality resulted in spending more money than was necessary, the Japanese managers disagreed. They believed that quality improvement was technically possible and economically feasible. They did not accept the common U.S. strategy of building a product with quality that was "good enough."

These managers were speaking only for their own firms, however. Some evidence shows that, at least in the short run, an overfocus on quality may become economically unwise. Even so, firms must remember that quality goods and services lead in the long run to repeat business, which translates into profits and growth. From a control standpoint, the major issue is how to identify quality problems and resolve them as efficiently as possible. One approach that has gained acceptance in the United States is outlined by Genichi Taguchi, one of the foremost authorities on quality control. Taguchi's method is to dispense with highly sophisticated statistical methods unless more fundamental ways do not work. Figure 11–3 compares the use of the Taguchi method and the traditional method to identify the cause of defects in the paint on a minivan hood. The Taguchi approach to solving quality control problems is proving to be so effective that many MNCs are adopting it. They also are realizing that the belief that Japanese firms will correct quality control problems regardless of the cost is not true. As Taguchi puts it, "the more efficient approach is to identify the things that can be controlled at a reasonable cost in an organized manner, and simply ignore those too expensive to control."[34] To the extent that U.S. MNCs can do this, they will be able to compete on the basis of quality.
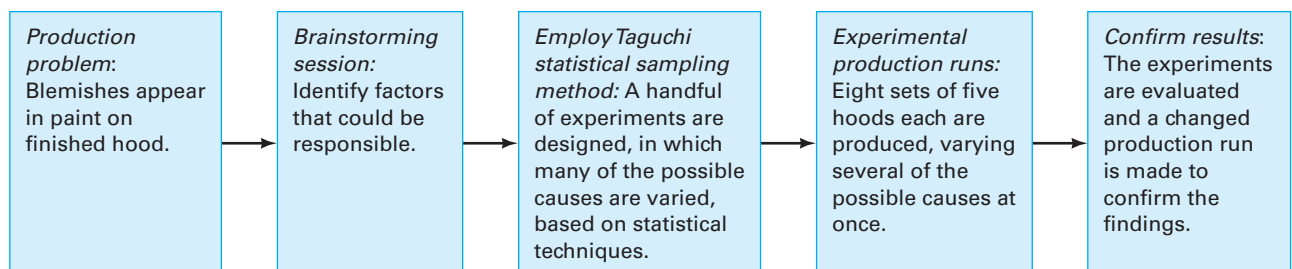
Personnel Performance

Besides financial techniques and the emphasis on quality, another key area of control is personnel performance evaluation. This type of evaluation can take a number of different forms, although there is a great deal of agreement from firm to firm about the general

Figure 11–3   **Solving a Quality Problem: Taguchi Method vs. Traditional Method**

Traditional Method Possible causes are studied one by one while holding the other factors constant.

| *Production problem*: Blemishes appear in paint on finished hood. | → | *Perform experiment*: Change one factor and hold the others constant in a production run involving 70 hoods. | → | *Measure results*: If problem is not solved, design experiment with another 70 hoods, varying different factors while holding others constant. | → | *Repeat experiments*: Each of the possible causes must be studied in separate production runs of 70 hoods until the culprit is found. |

Taguchi Method Brainstorming and a few bold experiments seek to quickly find the problem.

| *Production problem*: Blemishes appear in paint on finished hood. | → | *Brainstorming session:* Identify factors that could be responsible. | → | *Employ Taguchi statistical sampling method:* A handful of experiments are designed, in which many of the possible causes are varied, based on statistical techniques. | → | *Experimental production runs:* Eight sets of five hoods each are produced, varying several of the possible causes at once. | → | *Confirm results*: The experiments are evaluated and a changed production run is made to confirm the findings. |

Source: From information reported in John Holusha, "Improving Quality, the Japanese Way," *New York Times,* July 20, 1988, p. 35.

Table 11–5
World's Most Reputable Companies, 2010

Global Reputation Pulse 2010—The Most Reputable Companies in the World Pulse Scores and Rank

Company	Home Country	Rank	Reputation Pulse
Google	U.S.	1	78.62
Sony	Japan	2	78.47
The Walt Disney Company	U.S.	3	77.97
BMW	Germany	4	77.77
Daimler (Mercedes-Benz)	Germany	5	76.83
Apple	U.S.	6	76.29
Nokia	Finland	7	76.00
IKEA	Sweden	8	75.60
Volkswagen	Germany	9	75.55
Intel	U.S.	10	75.39
Microsoft	U.S.	11	74.47
Johnson & Johnson	U.S.	12	74.12
Panasonic	Japan	13	73.67
Singapore Airlines	Singapore	14	73.54
Philips Electronics	The Netherlands	15	73.31
L'Oreal	France	16	73.17
IBM	U.S.	17	73.03
Hewlett-Packard	U.S.	18	72.67
Barilla	Italy	19	72.45
Nestle	Switzerland	20	72.37
Ferrero	Italy	21	72.36
Samsung Electronics	South Korea	22	71.62
FedEx	U.S.	23	70.84
Honda Motor	Japan	24	70.82
The Coca-Cola Company	U.S.	25	70.40
Carlsberg	Denmark	26	70.31
Procter & Gamble	U.S.	27	70.21
UPS	U.S.	28	70.07

Source: Forbes and the Reputation Institute: http://www.forbes.com/2010/05/23/ apple-google-sony-cmo-network-global-reputable-companies_2.html; http://www. reputationinstitute.com.

criteria to be measured. Table 11–5 provides a list of the most reputable companies as calculated by the Reputation Institute in conjunction with *Forbes* magazine. The "reputation pulse" measure incorporates a range of criteria, including the trust, admiration, and esteem that stakeholders have for a company.

In describing what makes another group of companies successful—the "World's Most Admired" firms—consultants at the Hay Group made an analysis of the best global firms, focusing especially on their personnel and talent management systems, identifying seven common themes:

1. Top managers at the most-admired companies take their mission statements seriously and expect everyone else to do the same.
2. Success attracts the best people—and the best people sustain success.
3. The top companies know precisely what they are looking for.
4. These firms see career development as an investment, not a chore.

5. Whenever possible, these companies promote from within.

6. Performance is rewarded.

7. The firms are genuinely interested in what their employees think, and they measure work satisfaction often and thoroughly.[35]

One of the most common approaches to personnel performance evaluation is the periodic appraisal of work performance. Although the objective is similar from country to country, how performance appraisals are done differs. For example, effective employee performance in one country is not always judged to be effective in another. Awareness of international differences is particularly important when expatriate managers evaluate local managers on the basis of home-country standards. A good example comes out of a survey that found Japanese managers in U.S.-based manufacturing firms gave higher evaluations to Japanese personnel than to Americans. The results led the researcher to conclude: "It seems that cultural differences and diversified approaches to management in MNCs of different nationalities will always create a situation where some bias in performance appraisal may exist."[36] Dealing with these biases is a big challenge facing MNCs.

Another important difference is how personnel performance control actually is conducted. A study that compared personnel control approaches used by Japanese managers in Japan with those employed by U.S. managers in the United States found marked differences.[37] For example, when Japanese work groups were successful because of the actions of a particular individual, the Japanese manager tended to give credit to the whole group. When the group was unsuccessful because of the actions of a particular individual, however, the Japanese manager tended to perceive this one employee as responsible. In addition, the more unexpected the poor performance, the greater was the likelihood that the individual would be responsible. In contrast, individuals in the United States typically were given the credit when things went well and the blame when performance was poor.

Other differences relate to how rewards and monitoring of personnel performance are handled. Both U.S. and Japanese managers offered greater rewards and more freedom from close monitoring to individuals when they were associated with successful performance, no matter what the influence of the group on the performance. The Americans carried this tendency further than the Japanese in the case of rewards, including giving high rewards to a person who was a "lone wolf."[38]

A comparison of these two approaches to personnel evaluation shows that the Japanese tend to use a more social or group orientation, while the Americans are more individualistic (for more, see Chapter 4). The researchers found that overall, however, the approaches were quite similar and that the control of personnel performance by Japanese and U.S. managers is far more similar than different.

Such similarity also can be found in assessment centers used to evaluate employees. An **assessment center** is an evaluation tool that is used to identify individuals with the potential to be selected for or promoted to higher-level positions. Used by large U.S. MNCs for many years, these centers also are employed around the world. A typical assessment center would involve simulation exercises such as these: (1) in-basket exercises that require managerial attention; (2) a committee exercise in which the candidates must work as a team in making decisions; (3) business decision exercises in which participants compete in the same market; (4) preparation of a business plan; and (5) a letter-writing exercise. These forms of evaluation are beginning to gain support, because they are more comprehensive than simple checklists or the use of a test or an interview and thus better able to identify those managers who are most likely to succeed when hired or promoted.

assessment center
An evaluation tool used to identify individuals with the potential to be selected for or promoted to higher-level positions.

■ The World of International Management—Revisited

This chapter focuses on two areas that are essential to any company joining the race to compete in online retail or to develop productive contracting relationships for outsourcing in this area: management decision and control systems. The rapid growth in online retail poses substantial challenges in the areas of management decision and control. For

example, many companies rely on extensive and sophisticated Web infrastructure to market and fulfil orders; any breakdown in these systems can have substantial ramifications for smooth operations and overall reputation. The implications for these firms' control process are obvious. Further, many companies, even large ones, outsource these functions to one of the large online retailers such as Amazon.com, further exacerbating the possible misconnection between management and customers.

Review the opening World of International Management discussion of online retailers and think about the principal considerations in international management decision making and control processes you have read about in this chapter. Then, answer the following questions: (1) How might differences in national and corporate culture impede timely decisions and control processes among existing and potential competitors in online retail? (2) To what extent should total quality management and quality control be considered when establishing an online retail presence or contracting with another firm to provide it? (3) What specific decision and control systems or tools would be helpful in overseeing an online presence (either internal or outsourced)?

SUMMARY OF KEY POINTS

1. Decision-making involves choosing from among alternatives. Some countries tend to use more centralized decision making than do others, so that more decisions are made at the top of the MNC than are delegated to the subsidiaries and operating levels.

2. A number of factors help influence whether decision making will be centralized or decentralized, including company size, amount of capital investment, relative importance of the overseas unit to the MNC, volume-to-unit-cost relationship, level of product diversification, distance between the home office and the subsidiary, and the competence of managers in the host country.

3. There are a number of decision-making challenges with which MNCs currently are confronted. These include total quality management (TQM) decisions

and strategies for attacking the competition, among others.

4. Controlling involves evaluating results in relation to plans or objectives and then taking action to correct deviations. MNCs control their overseas operations in a number of ways. Most combine direct and indirect controls. Some prefer heavily quantifiable methods, and others opt for more qualitative approaches. Some prefer decentralized approaches; others opt for greater centralization.

5. Three of the most common performance measures used to control subsidiaries are in the financial, quality, and personnel areas. Financial performance typically is measured by profit and return on investment. Quality performance often is controlled through quality circles. Personnel performance typically is judged through performance evaluation techniques.

KEY TERMS

assessment center, *383*

codetermination, *367*

controlling, *371*

decision making, *363*

direct controls, *374*

empowerment, *368*

honne, *367*

indirect controls, *375*

kaizen, *369*

profit, *377*

quality control circle (QCC), *378*

return on investment (ROI), *377*

ringisei, *367*

tatemae, *367*

total quality management (TQM), *368*

REVIEW AND DISCUSSION QUESTIONS

1. A British computer firm is acquiring a smaller competitor located in Frankfurt. What are two likely differences in the way these two firms carry out the decision-making process? How could these differences create a problem for the acquiring firm? Give an example in each case.

2. Which cultures would be more likely to focus on external controls? Which cultures would consider direct controls to be more important than indirect controls?

3. How would you explain a company's decision to employ centralized decision-making processes and decentralized control processes, considering the two are so interconnected? Provide an industry example of where this may occur.

4. How are U.S. multinationals trying to introduce total quality management into their operations? Give two examples. Would a U.S. MNC doing business in Germany find it easier to introduce TQM concepts into German operations, or would there be more receptivity to them back in the United States? Why? What if the U.S. multinational were introducing these ideas into a Japanese subsidiary?

5. In what ways could an accelerated decision-making process harm a company? Using Figure 11–1, which stage(s) do you think would be most in danger of being overlooked?

6. A company practices personnel performance evaluation through reviewing financial decisions management has made, specifically focusing on ROI. How is this approach beneficial to the company? Which aspects could the company be neglecting? Which cultures are most likely to employ this method? Which cultures would avoid this tactic?

INTERNET EXERCISE: LOOKING AT THE BEST

In Table 11–5, the most reputable global companies are listed. Each company uses decision making and controlling to help ensure its success in the world market. Visit two of these company's corporate sites: Procter & Gamble and Panasonic. Carefully examine what these firms are doing. For example, what markets are they targeting? What products and services are they offering?

What new markets are they entering? Then, after you are as familiar with their operations as possible, answer these two questions: (1) What types of factors may influence future management decision making in these two companies? (2) What types of control criteria would you expect these companies to use in evaluating their operations and determining how well they are doing?

Denmark

Originally home of the Vikings, and then one of the most influential countries of Europe, Denmark has become a leading nation in terms of the political and economic integration of Europe. Located in Northern Europe, bordering the Baltic Sea and the North Sea, Denmark takes up 43,094 square kilometers, which is only about twice the size of Massachusetts. There are 5.516 million people living in Denmark. The GDP of this small country was $198.6 billion in 2009. Per capita GDP is around $36,000, one of the highest in the world. Denmark is a member of the European Union, but after a nationwide referendum, it rejected adopting the euro and maintains its krone (DKK). Denmark also maintains a successful employment policy in which employers can hire and fire workers fairly easily, thus avoiding some of the labor market rigidities of other EU countries, while the government provides extended unemployment benefits and extensive worker training.

Denmark derives 28.7 percent of its energy from renewable sources, and one small Danish Island, Samso, derives 100 percent of its energy from renewables. Denmark's capital, Copenhagen, is one of Europe's greenest cities and as a host of the recent UN Climate Change Conference it has helped set new standards. COP15 officially became the world's leading international, sustainable political summit. The ambition is to make Denmark's capital the world's leading city in sustainable conferences and congresses, an ambition now seen to pay off, because, as host of the UN Climate Change Conference, COP15, and the IOC Congress in 2009, Copenhagen showed the world that the city is able to hold very large international congresses successfully.

Another sign of its growing strength in clean technology is the country's rate of export of environmentally friendly products. In the last 10 years, Danish cleantech exports have grown at three times the rate of total exports. Known primarily for wind and biomass, but also other areas such as water purification, Denmark's intelligent energy solutions and air pollution control products are also developing rapidly. As the International Energy Agency (IEA) states, the market for cleantech has developed immensely in recent years and despite not reaching an agreement on the international climate in Copenhagen, global investments will total $26–36 *trillion* by 2030. Driving this growth is the fact that energy and environmental companies will have to rely on a vast array of environmental technologies if they want to keep up with the demand. Reaching EUR 8.6 billion in 2008, exports of these products have made Denmark the leading EU country in exports of energy technology as a proportion of total exports.

www.denmark.dk.

Questions

1. Why did Denmark not adopt the euro?
2. Why does it make sense for Denmark to invest in green, environmental friendly energy?
3. Which energy resources (could) have driven the development of Danish energy and environment technology most?

Brief Integrative Case 3.1

Microsoft Opens the Gates: Patent, Piracy, and Political Challenges in China

In the mid-1980s, Microsoft made its first foray into the Greater China region, a region consisting of Hong Kong, the People's Republic of China, and Taiwan. It was not until 1992, however, that Microsoft entered the mainland by opening a sales office in Beijing. Lured by China's phenomenal economic growth and Chinese engineering talent, Microsoft has progressively deepened its involvement in China. By the end of 2007, it had a global support center in Shanghai, a major research lab (Microsoft's China Research & Development Group) in Beijing, and employed more than 3,200 individuals throughout the country.

Along the way, Microsoft has faced significant tests, such as the widespread piracy of its products, Chinese government pressures to transfer its technology, host government promotion of competitor products, discriminatory procurement practices by subnational authorities in China, and strong encouragement to enter into joint ventures (JVs) with local firms. Over the past three years or so, new challenges have arisen in the form of intellectual property (IP) lawsuits from Chinese firms, the emergence of criticisms about Microsoft's role in supporting censorship in China, and charges of labor abuse at two Microsoft subcontractors in southern China.[1] To manage these challenges, Microsoft's top executives have *inter alia* built relationships with top Chinese leaders while the firm has partnered with local-level governments, invested heavily in China, and built alliances with a number of Chinese technology companies. From time to time, Microsoft has used more aggressive strategies such as lobbying the U.S. government to pressure China to enhance its protection of foreign company IP rights (IPR), filing IP lawsuits in Chinese courts and suing Chinese firms using pirated software.[2]

The operating environment in China has been, at times, quite trying for Microsoft. Indeed, Microsoft senior counsel Fred Tipson said in November 2006, "We have to decide if the persecuting of bloggers reaches a point that it's unacceptable to do business there."[3] Even so, Microsoft is likely to plow ahead in its quest to profit from China. Between 2002 and 2007, "Microsoft sales and revenue grew more rapidly in the Greater China region than in any other market in the world."[4] China's impressive GDP growth rates, double-digit software market growth rate, rapidly growing packaged software market, status as the world's second-largest PC market, and ranking as the world's largest Internet and mobile markets suggest any other course of action is highly unlikely.[5] Over the longer term, Microsoft's ability to tap China's riches will depend upon factors such as the country's continued economic growth, the development of the country's indigenous technology sector, and the extent to which foreign governments exert pressure on China.

Risks Facing Software Firms Operating in China

In 2001 China joined the World Trade Organization (WTO). Pursuant to its WTO agreements, China committed itself to honor the IPR—e.g., patents, copyrights, and trademarks—of foreign companies, including software firms. China quickly moved to make the requisite legal changes, but software piracy rates still ran an astounding 86 percent in 2005. Over the next four years, they steadily declined, but still remained at the steep level of 79 percent as of 2009, one of the highest in the world.[6] Aside from piracy, software enterprises generally face great risks in defending their IPR in China. Specific challenges include an unclear specification of IPR enforcement responsibilities among government agencies, weak criminal sanctions, corruption, localism, and poor education about the requirements of IPR. Newer challenges for firms in this sector include the promulgation of market competition laws (e.g., the 2008 Anti-Monopoly Law or AML) and abuse of IP rules which may be used against foreign IP holders, a lack of progress in establishing sufficient mechanisms to deal with the piracy of Internet content, and an increase in the number of patent cases filed by Chinese firms against foreign ones.[7]

Beyond China's weak protection of IPR, foreign software firms operating in China must deal with a government deeply concerned about the development of China's technology sector.[8] In February 2006, for example, China's State Council (Cabinet) identified software as one of eleven sectors for prioritization. Nine months later, nine Chinese ministries, including the Ministry of Commerce, issued a document designed to boost China's software exports to $10 billion by 2010. Given this, it is not surprising that the government has moved to build up China's software sector. Its initiatives include subsidies, the provision of training, support for alternatives such as open source software (e.g., Linux), efforts to create Chinese

software standards, and preferential government procurement policies.[9]

Foreign software firms must contend with a strong undercurrent of Chinese nationalism, too. This nationalism can make government units, firms, and individuals reluctant to buy foreign products or do business with foreign firms. Even if it does not have this effect, nationalism can lead to extreme sensitivity about foreign business activities, resulting in a spotlight being cast on misbehaviors that would be ignored if the perpetrator was a domestic firm. At the extreme, it can even engender worries about the impact of foreign software firms on national security and national independence.[10]

Exploring Microsoft

Founded in 1975, Microsoft is the world's largest stand-alone software maker. Microsoft operating systems, such as Vista and XP, run on 90 percent of all PCs worldwide. Aside from operating system software for PCs, Microsoft offers systems software for servers and devices like personal digital assistants (PDAs) and mobile phones. Microsoft also develops security and collaboration software for the business market, diverse application software, including the Microsoft Office productivity suite, and computer games and operates websites such as MSN.com. While Microsoft is primarily a software company, it derives significant revenues from hardware items such as the Xbox gaming system and computer peripherals such as keyboards.

Although no longer the high-growth stock it once was with near guaranteed impressive annual increases in net revenues and income, Microsoft registered healthy overall results in 2009. Its revenues were $58.44 billion. Furthermore, its net income ran an impressive $14.57 billion, although this was about $3 billion less than the preceding year. These results gave the company a return on equity of 41.83 percent and return on assets of 18.60 percent, far better than many of its peers.[11] While the financial picture has remained bright, Microsoft has long recognized the need to develop new sources of growth in order to deal with the maturation of the American market, regulatory challenges like global antitrust actions against Microsoft, and the rise of new competitors such as Google and new forms of software distribution.

Microsoft took its first steps overseas in 1978 by establishing a sales office in Japan. Within 12 months Microsoft moved into Europe by signing a sales arrangement with Belgian firm Vector International. In 1982 Microsoft established a subsidiary in England, following the next year with the opening of subsidiaries in France and Germany and the purchase of a distributor in Australia. Two years later, Microsoft initiated its first production facility outside the United States in Dublin, Ireland. In 1986 the firm turned its attention to Latin America by establishing a subsidiary in Mexico. Three years later,

Microsoft opened its European headquarters in France. In 1990 the firm deepened its involvement in the Asia Pacific by striking distribution arrangements in Indonesia, Malaysia, and Singapore and by opening a research and development center in Japan. In 1997 Microsoft opted to set up a research laboratory in England. One year later, Microsoft opened a development center in India, its largest outside of the United States. Expanding its presence in India, Microsoft opened a support center in Bangalore in 2003. Thereafter, Microsoft worked to build up its presence in China and other areas.

Microsoft's Quest to Excel in China[12]

Microsoft did not station its first employee in China until around 1991. A U.S.–China accord in 1992 on IPR spurred Microsoft to intensify its pursuit of opportunities in China. Subsequently, Microsoft opened a representative office and signed an agreement with various Chinese PC producers to preload its software on their computers. In 1994, then Microsoft Chairman and CEO Bill Gates visited China to launch Chinese Windows. Following a frosty reception by Chinese elites who felt Microsoft was not giving China due deference, Gates did an about-face and pursued a more cooperative relationship with Beijing. Still, Microsoft did not shy away from aggressive measures to defend its interests. For example, it cheered efforts by the Office of the U.S. Trade Representative to obtain new IPR commitments from China.

In November 1998, Microsoft and China opened Microsoft Research China, the company's second international research lab and first research facility in Asia. Around the same time, Microsoft established a major support center in Shanghai. Michael Rawding, Microsoft's Greater China regional director, gushed, "China is the most populous country in the world, and it's becoming an ever more important location for information technology. . . . It's very important for Microsoft to understand and really be in the forefront of what's happening there."[13] The next year, though, Microsoft returned to a more confrontational path when it sued a Chinese company, Yadu Science and Technology, for piracy. The episode became a debacle for Microsoft, which not only lost the case but also suffered a public relations defeat.

While pressing for more progress on piracy, Microsoft embraced a policy of cooperation. In this vein, it lobbied vigorously in 2000 for China's WTO accession and, in the same year, launched a simplified character version of Chinese Windows 2000. Relations with China were still antagonistic, though, because the Chinese government actively began to champion Linux as an alternative to Microsoft's products. Chen Chong, a deputy minister in the Ministry of Information Industries, stated that China's support would "break the monopoly of the Windows operating system in the Chinese market."

Table 1 **Microsoft Timeline**

1975	Microsoft is founded.
1981	MS-DOS debuts on IBM's first PC.
1983	Microsoft introduces MS Word, MS Windows, and the Microsoft mouse.
1985	Microsoft sells the first retail version of Windows. Revenues reach almost $140 million.
1986	Microsoft holds its IPO.
1989	Microsoft launches Microsoft Office, a suite of business software including Excel.
1990	Microsoft becomes the first software company to exceed $1 billion in revenues. U.S. Federal Trade Commission begins investigation into possible anticompetitive sales practices by Microsoft.
1993	Microsoft launches Windows NT, a platform for network servers.
1995	Microsoft introduces its Windows 95 operating system and its online MSN service. Revenues reach almost $6 billion.
1997	U.S. Justice Department sues Microsoft for violating a 1994 consent decree relating to the licensing of Windows. A U.S. district court orders Microsoft to unbundle Windows 95 from its Internet browser.
2000	Judge Thomas Jackson rules Microsoft a monopoly and orders breakup of the company and changes in its sales practices. Revenues hit nearly $23 billion.
2001	Microsoft launches Windows XP and the Xbox gaming system. U.S. Appeals Court overturns Judge Jackson's breakup ruling.
2004	European Union (EU) determines Microsoft is guilty of anticompetitive practices, fines it $613 million, orders it to share code, end certain practices, and untie certain music players from Windows.
2006	EU fines Microsoft $358 million for noncompliance with its 2004 ruling. Revenues reach $44.2 billion.
2007	Microsoft releases Vista, launches 2007 Office system, and makes its largest ever acquisition, a $6 billion purchase of online marketing firm aQuantive.
2008	Microsoft makes $45 billion offer for Internet firm Yahoo! which ultimately fails. The EU fines Microsoft an additional $1.44 billion for the software firm's failure to comply with previous EU demands and starts new investigations into the company's activities.
2009	Microsoft launches Windows 7, its latest operating system. The EU begins an investigation of Microsoft's tying in of its Internet Explorer browser with Microsoft ultimately opting to give users multiple browser choices.

Source: Author's compilation from various sources.

There was reluctance, too, at the municipal level to embrace Microsoft. For example, in December 2001, the Beijing Municipal government shunned Microsoft by awarding operating system software contracts for 2,000 PCs to Red Flag Linux, a local Linux developer. On the bright side, Microsoft signed agreements with four leading Chinese computer makers—Legend, TCL, Tsinghua Tongfang, and Great Wall—to preinstall Windows XP on their machines. It also signed an accord with the Shanghai Municipal government, whereby it agreed to help develop Shanghai's software sector, expand its Shanghai regional support center into a global support center, and train thousands of software architects. Furthermore, it became the first foreign firm to become a member of the Chinese Software Industry Association.

In 2002 Microsoft entered into its first Chinese JV, Zhongguancun Software, with two Chinese firms—Centergate and Stone group. The deal was small but represented a change for Microsoft, which typically shunned such ventures. The same year, Microsoft signed a three-year, $750 million deal with China's State Development & Planning Commission, which committed Microsoft to invest in education and training, academic and research cooperation, and local software companies. Over the next two years, Microsoft agreed to let the Chinese government

see the source code for the Windows operating system and all Office 2003 products (lest there be hidden security holes), signed a large investment and cooperation deal with the Beijing Commission on Science & Technology, and struck strategic partnership deals with various Chinese firms such as Petro China.[14] Despite Microsoft's efforts, the Chinese government continued to discriminate against the company by requiring all ministries to purchase Linux-based software.[15]

In 2005 Microsoft MSN announced a partnership with Shanghai Alliance Investment Ltd. (SAIL) to launch the MSN China online portal for delivering MSN products and services to customers in China. Concurrently, Microsoft developed a partnership with a Chinese mobile software and services firm (TSSX) to enable the delivery of MSN Mobile products and services.[16] Eager to tap new sources of growth outside the maturing U.S. market, Microsoft worked in 2005 and into 2006 to conclude new agreements with Chinese PC manufacturers, develop new partnerships, and better its relations with the Chinese government.

As for commercial contracts, Microsoft signed deals worth almost $2 billion with Chinese PC makers Founder Technology Group, Lenovo, and TCL Group to preinstall Windows. With respect to partnerships, Microsoft began to license technology to Chinese firms. In April 2006,

Microsoft signed a five-year multibillion-dollar agreement to outsource hardware production to Chinese firms and invest in others. Three months later, Microsoft further signed a training, technology provision, and investment agreement with the Guangzhou provincial government. Microsoft's chief technology officer, Craig Mundie, noted that Microsoft was willing to continue to invest in China "even though the climate for our business has been suboptimal" because China was a priority for the firm both as a market and as a source of technology.[17]

Analysts partly attributed these favorable deals with Chinese PC firms and the Chinese government's 2006 decision to require all PC manufacturers to have legitimate operating systems to Microsoft's concerted overtures toward China. Tellingly, during his April 2006 visit to the United States, Chinese President Hu Jintao opted to meet with Gates before meeting with President George Bush Jr. Moreover, during his tour of Microsoft's headquarters in Redmond, Washington, Hu complimented Gates as a friend of China.

At the beginning of 2007, Microsoft announced that it would set up an R&D facility in Shanghai to bolster its MSN offerings. Microsoft's investment was symbolically important given it was the company's first overseas MSN R&D venture. In April 2007, Gates announced that Microsoft planned to double its R&D staffing in Beijing and Shanghai.[18] Microsoft China CEO Tim Chen stated "our core strategy is to implement a unified strategy, get rooted in China and grow with the local economy."[19] In May, Lenovo inked a new $1.3 billion software deal with Microsoft, supplementing its $1 billion-plus deal in 2006.

The next year found Microsoft continuing its initiatives to build good government relations nationally and locally. For instance, it announced plans in March to set up an IT training center in Wuxi which would help the city with its plans to develop an outsourcing sector.[20] Two months later, Microsoft said it would invest $280 million to build a new R&D center in Beijing and to expand its research staff in the country. One of China's leading dailies observed that such investments had "helped Microsoft win support from the Chinese government and boosted sales in the Chinese market."[21] Six months later, the software behemoth proclaimed it would invest $1 billion in R&D in China on top of the $280 million for the aforementioned Beijing R&D center. Moreover, China's special importance led Microsoft to establish a special executive management committee for China "because of the strategic importance and huge business potential of the region."[22]

In 2009, various Chinese news media sources highlighted the software leader's extensive collaboration with the Ministry of Education and the Ministry of Industry and Information Technology to distribute technology, build learning centers, and boost training in rural and other areas.[23] In 2010, Microsoft's operations in China fell under the spotlight because of Google's difficulties with

Beijing, difficulties which ultimately led Google to withdraw some of its operations from China. In contrast to Google, Microsoft spoke of the need to comply with local laws and regulations and evidenced no signs of changing its operations. Google's challenge to Beijing put Microsoft in a difficult spot as Microsoft had already taken a beating in the U.S. Congress four years earlier over its complicity in China's Internet censorship.[24]

The Vista for Microsoft in China

Going forward, China represents an immensely attractive market for Microsoft, a critical battleground, and a source of rich talent. China is an alluring market because it is one of the fastest growing software markets in the world, has 650 million mobile phone subscribers, and is expected to have double-digit PC sales growth.[25] Furthermore, Microsoft's view is that "the search market in China is the most important strategic market for China."[26] Regarding talent, Steve Ballmer, CEO of Microsoft commented, "Microsoft attaches great importance to China, both as a market and because it is such a key center for innovation."[27]

Profiting from China, however, will not be easy. One reason is that Microsoft faces strong competition from other foreign companies such as Apple, Google, Oracle, Nokia, and SAP. Another is that Chinese firms, though many have no ability to compete with the software giant head-on, are becoming more aggressive in challenging Microsoft, increasing staff, research budgets, and buying other companies.[28]

In the future, software piracy will present a continuing challenge to Microsoft's ability to profit from China. One reason is that the cost of Microsoft's software will encourage piracy. Although the firm, after many years of refusing to cut the prices of its software in China, finally relented and cut the prices of some software by as much as 50 percent (in some cases permanently, in others on a promotional basis), many see the price of the company's software as too high given average wage levels in the country.[29] Another challenge for Microsoft is the fact that China's respect for IPR is still relatively underdeveloped and that the Chinese government still has not undertaken sufficiently ambitious steps to defend IPR. While the Chinese government has touted its effort to stiffen IPR penalties and its success in shutting down a piracy ring that distributed more than $2 billion of counterfeit Microsoft software, pirated versions of Windows 7 were available soon after its official China release.[30]

Nevertheless, over the longer term, analysts expect that Beijing's 2006 decision to require Chinese PC manufacturers to preinstall legal operating systems on all new PCs as well as various government agencies' decisions to require the purchase of only PCs preloaded with software will aid Microsoft's prospects. Also in Microsoft's favor are rising incomes that enable consumers to pay more, the improving legal environment for IPR, and the rise of an

indigenous Chinese high-tech sector which can profit from IPR. Finally, Microsoft's extensive efforts to nurture partnerships, deepen its relations with China, and build a Microsoft-oriented software sector in China through training, certification, and the like should bolster the company's prospects.

Two newer challenges relating to IPR, one more concrete, the other potential, have emerged for Microsoft over the past few years. First, in a twist, Chinese software firms are starting to file patent lawsuits against the software giant for stealing their IP. For instance, in 2008, China E-Commerce Info-Tech Co Ltd sued Microsoft for pirating its RSS-related technology, a case which it won. In late 2009, a Chinese court ordered Microsoft to stop selling certain versions of its operating system software on the basis that such software illegally used fonts designed by a local Chinese company.[31] The second newer challenge is China's aforementioned AML which potentially may be used against software companies such as Microsoft that have dominant market positions, limit licensing opportunities, or file patent lawsuits.[32]

Microsoft has come a long way since 1998 when Bill Gates reportedly said, "Although about three million computers get sold every year in China, people don't pay for the software. . . . Someday they will . . . as long as they're going to steal it, we want them to steal ours. They'll get

Table 2   **China's Closed Gates**

$295	Price for a basic, legal copy of Microsoft Vista in China
$1.30 to $4.00	Price of a pirated copy of Microsoft Vista on the street in China
86%	Percentage of software on Chinese computers that is pirated
70%	Percentage of software on Chinese government computers that is pirated
$3.8 billion	Estimated software losses to piracy in China in 2005

Source: Kathleen E. McLaughlin, "Pirated Vista Beats Microsoft to China's PCs," *San Francisco Chronicle*, January 31, 2007, http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2007/01/31/MNGQCNS3NG1.DTL.

sort of addicted, and then we'll somehow figure out how to collect."[33] As one article put it, "Microsoft's investment [in China] can be best described with an old Chinese proverb, 'give in order to take.' By doing so, Microsoft finally sees the [realistic prospect] of making profit in China."[34] Still the company apparently has some learning to do given that the English language name of its latest search engine (Bing) may be translated into Chinese as sickness![35]

Questions for Review

1. What are the risks that Microsoft has faced in operating in China and dealing with the Chinese government? Do you see these risks as increasing, diminishing, or changing in the future? Are these risks unique to China or present in other developing countries?

2. What approaches did Microsoft take to manage its political risks in China? Why might it have favored some of these techniques versus others? Which do you feel worked best? What should Microsoft do going forward?

3. In its dealings with China, Microsoft frequently had to deal with lower levels of government. What special types of challenges and opportunities did this present?

4. Do other firms have the same risk management options as Microsoft? If so, why? If not, why not?

5. Is Microsoft creating serious risks by supporting, financing, and transferring technology to local Chinese software firms? How might Microsoft manage these risks?

6. Should Microsoft follow Google in the latter's challenge to Internet censorship in China? What are the advantages? What are the disadvantages? If it should, then what are the implications for its business elsewhere around the globe?

Source: This case was prepared by Professor Jean-Marc Blanchard of San Francisco State University as the basis for class discussion.

Can Sony Regain Its Innovative Edge? The OLED Project

Sony Corporation, once an undeniable innovation leader, has struggled recently to bring new innovative technologies to the market. Sony's next-generation television, an ultra-thin model hailed by executives as a symbol of the company's technological comeback, is now a symbol of another kind: the dilemma facing its TV business. The essence of the dilemma involves Sony's ability to hold its position as an innovation leader and stay profitable at the same time.[1]
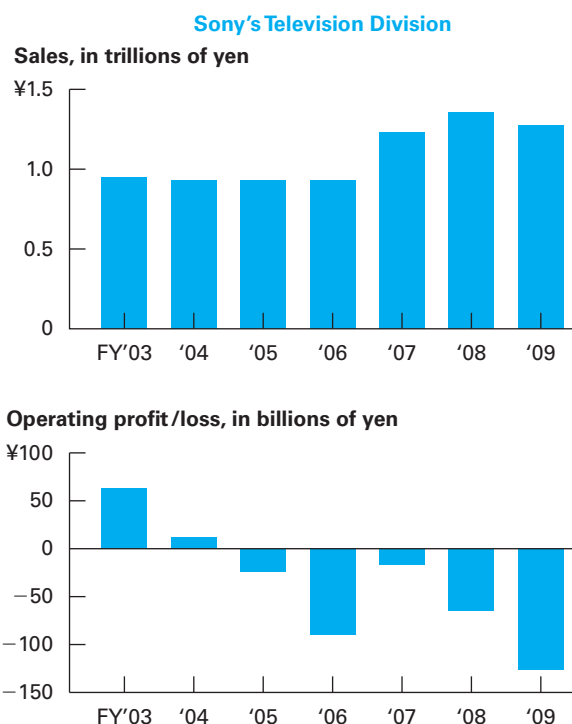
Sony developed a new flat-panel technology, called organic light-emitting diode (OLED), to produce a brilliant picture on a screen only 3 millimeters thick. The technology is so new that Sony is barely breaking even on the pricey sets. The company had announced the introduction of the first 11-inch OLED model back in October 2007, but announced it would postpone mass production of the new TV for several years.[2]

The decision to postpone sent a clear message to Sony's engineers and R&D staff that returning its TV business to profitability is a priority. The business is on track to lose money for the sixth straight year. In the past, Sony's engineers could push the company to roll out products that were technological marvels but struggled to turn a profit. Sony's TV division lost 127 billion yen ($1.34 billion) in 2008, representing more than half of the company's operating losses for the fiscal year which ended March 31, 2009. Televisions accounted for 16.5 percent of Sony's 7.73 trillion yen in revenue.[3]

Sony has a lot to lose. The Japanese electronics giant has invested more than $78 million in OLED, which it thinks may eventually replace plasma and liquid crystal display (LCD) as the dominant TV technology. According to tech analyst Paul Semenza at researcher iSuppli, 2.8 million OLED TVs will be sold in 2013. That's a promising opportunity for Sony, which has lost market share in music players, video game systems, and other types of TVs in recent years. "Sony desperately needs a new (television) technology," Semenza says. "They haven't had a blockbuster since the Trinitron" cathode ray tube (CRT) televisions of the 1970s, 1980s and 1990s, he says.[4]

According to analysts, Sony was slow to embrace the shift from cathode-ray-tube televisions to LCDs. Once the world's top TV maker, Sony now trails both Samsung and LG in terms of revenue, according to DisplaySearch.[5] And commercialization of this new technology brings about operational and supply chain challenges to the electronic giant: Manufacturing costs for new technology are very high, and the needed components are hard to procure. Research firm DisplaySearch estimates Sony's production yield for its 11-inch OLED panel is below 60 percent, meaning at least 4 of every 10 panels its factories produce aren't up to par and can't be sold. Production of larger panels would likely introduce more difficulties.[6]

Sony's New OLED TV Features

Limited quantities of Sony's first OLED TV model ("XEL-1") came to the U.S. market in January 2008 at strikingly high prices—$2,500 for a tiny 11-inch TV set.[7] Sony executives had tried to persuade the market that the new technology brought so many benefits that it was worth every penny. According to Sony, the main features of the "XEL-1" TV include:[8]

1. Thinness: Introduces new TV form factor measuring approximately 3mm thinness (at its thinnest point).

Sony's Television Division

Sales, in trillions of yen

Operating profit/loss, in billions of yen

Note: Fiscal years end March 31 of years shown

Source: the company

2. High contrast: Reproduces realistic images using exquisite shades of black and flexible control of color tone and gradation.

3. High peak brightness: Faithfully reproduces picture glow.

4. Excellent color reproduction: Delivers pure and vivid colors in both dark and bright images.

5. Rapid response time: Smoothly reproduces fast-moving images such as sports scenes.

6. Low power consumption.

"The launch of an OLED TV is one of the most important industry landmarks," said Randy Waynick, senior vice president of Sony Electronics' Home Products Division. "Not only does the technology change the form factor of television, it delivers flawless picture quality that will soon become the standard against which all TVs are measured."[9]

Under development for more than 10 years, OLED displays not only offer a striking form factor, they deliver "unmatched performance" in key picture quality categories, according to Waynick. With their light-emitting structure, OLED displays can prevent light emission when reproducing shades of black, resulting in very deep blacks and a contrast ratio of over 1,000,000:1. The lack of a backlight allows the device to control all phases of light emission from zero to peak brightness. The innovative technology delivers exceptional color expression and detail without wasting power, so it is an exceptional energy-saver.[10]

The other advantage of new technology cited by Sony officials is that the OLED display panel uses extremely low power levels since the light-emitting structure of the panel eliminates the need for a separate light source. As a result, OLED panels can be up to 40 percent more efficient per panel inch compared with a conventional 20-inch LCD panel. Additionally, since OLED displays create their own light, any mercury associated with traditional backlighting is eliminated.[11]

"Super Top Emission," a technology unique to Sony and incorporated in its "Organic Panel," has a high aperture ratio which allows for efficient light emission from the organic materials, realizing high peak brightness. This enables "XEL-1" to faithfully reproduce light flow such as reflections of sunlight or camera flashlights through the image reproduced on the display. This "Super Top Emission" and the color extracting technology within its embedded color filter enable "XEL-1" to reproduce natural colors beautifully. As a result, the fresh colors of ripe fruit and shades of deep cobalt blue can be stunningly reproduced. In order to use OLED to generate the full spectrum of Sony's TV color requirements, Sony developed its own proprietary organic materials, with bright coloration. The "Organic Panel" can also sustain its color reproduction capability in scenes of diminished brightness, enabling "XEL-1" to faithfully re-create even dark movie scenes using the colors that were originally intended.[12]

A final advantage of the OLED technology is its rapid response time, enabling it to smoothly reproduce fast moving images such as sports scenes. This response time is attributed to newly developed OLED drive circuits which spontaneously turn the light emitted from the organic material layer on and off.

Weaknesses of the OLED Technology

In spite of all the features that new OLED technology delivers, it has a number of shortcomings, some of which may take years for the manufacturers to overcome in order to make the technology commercially attractive. According to analysts, among the weaknesses of this new technology were the following:[13]

1. *Lifespan*
   The biggest technical problem for OLEDs is the limited lifetime of the organic materials. In particular, blue OLEDs historically have had a lifetime of around 14,000 hours to half original brightness (five years at 8 hours a day) when used for flat-panel displays, which is lower than the typical lifetime of LCD, LED, or PDP (plasma display) technology—each currently rated for about 60,000 hours to half brightness, depending on manufacturer and model. However, some manufacturers of OLED displays aim to increase the lifespan of OLED displays, pushing their expected life past that of LCD displays by improving light outcoupling, thus achieving the same brightness at a lower drive current.

2. *Color balance issues*
   Additionally, as the OLED material used to produce blue light degrades significantly more rapidly than the materials that produce other colors, blue light output will decrease relative to the other colors of light. This differential color output change will change the color balance of the display and is much more noticeable than a decrease in overall luminance. This can be partially avoided by adjusting color balance, but this may require advanced control circuits and interaction with the user, which is unacceptable for some uses. In order to delay the problem, manufacturers bias the color balance toward blue so that the display initially has an artificially blue tint, leading to complaints of artificial-looking, over-saturated colors.

3. *Water damage*
   The intrusion of water into displays can damage or destroy the organic materials. Therefore, improved sealing processes are important for practical manufacturing and may limit the longevity of more flexible displays.

4. *Outdoor performance*
   As an emissive display technology, OLEDs are 100 percent reliant converting electricity to light whereas most LCD displays contain at least some portion of reflective technology and e-ink leads the way in efficiency with ~33 percent reflectivity of sunlight, enabling the display to be used without any artificial light source. OLEDs typically have poor readability in bright ambient light, such as outdoors, whereas displays that use reflective light are able to increase their brightness in the presence of ambient light to help overcome unwanted surface reflections without using any additional power.

5. *Power consumption*
   While an OLED will consume around 40 percent of the power of an LCD displaying an image which is primarily black, for the majority of images, it will consume 60–80 percent of the power of an LCD; however, it can use over three times as much power to display an image with a white background such as a document or website. This can lead to disappointing real-world battery life in mobile devices.

6. *Screen burn-in*
   Unlike displays with a common light source, the brightness of each OLED pixel fades depending on the content displayed. Combined with the short lifetime of the organic dyes, this leads to screen burn-in, worse than was common in the days of CRT-based displays.

Competition

The postponement also opens the door to competitors such as LG Electronics Inc. and Samsung Electronics Co. to assume leadership in a promising technology, touted as a potential replacement to liquid-crystal displays. LG plans to one-up Sony with a 15-inch OLED TV for the Korean and overseas markets. Pricing hasn't yet been determined.[14]

Samsung showcased a 31-inch OLED model in January 2009, but said it is a few years away from release.[15] "OLED is probably the best technology we see out there in terms of picture quality," said S. I. Lee, a Samsung senior vice president. But Samsung isn't ready to bring the sets to market. If the 31-inch were commercially available, it would cost $15,000 to $20,000, Lee said. "There isn't enough high-definition programming to make such a pricey set worth it," he said. "We want to continue to work on this, to bring the price down to a level that makes sense," he said.[16] Panasonic Corp. has also said it is developing an OLED TV.[17]

The biggest threat to OLED's future could be LCDs. Prices of LCDs are falling rapidly even as their quality improves. Newer LCD models are thinner, use less energy, and can offer brighter colors. Also, as is often the case with new display technology, producing an OLED television is expensive and the product can cause sticker shock. As we mentioned, Sony's first model, the 11-inch XEL-1, sells for $2,500—a price reserved for the latest LCD TVs with screens of 50 inches and above.[18]

All new products take time and money to develop, but television technology is particularly difficult. It's complicated and tough to manufacture in large quantities. LCD screens were first tested in the 1970s, but were not commonly used in TVs until 30 years later.[19]

OLED, which goes back to the 1970s, is used in a few tiny products today. One of the most common applications is the small, secondary screen on the outside of some flip-style cell phones. (These relatively low-quality OLED screens usually display the time and date when the phone is closed.) But the technology can't yet produce a TV screen size "at a price that will be accepted by the consumer," says Bob Scaglione, senior vice president at TV maker Sharp.[20] Analysts forecast that even if OLED does do well, it will be years before it will really take on plasma and LCD. Sizes won't be comparable until 2012 at the earliest.[21] That's why Sharp is betting on LCD. In 2008 the company has showed off an experimental, 52-inch LCD that's less than 1 inch thick. Samsung, too, demonstrated thinner, bigger LCDs, including one monster that's 82 inches.[22]

According to Sharp's representatives, LCD has more room to improve. The sets will get at least 40 percent better than they are today as the technology is refined. Such improvements are a moving target that OLED manufacturers must constantly chase. And quickly producing larger OLED TVs is crucial, because everyone is looking for the biggest TV they can afford. The analysts are skeptical that OLED can get there fast enough.[23]
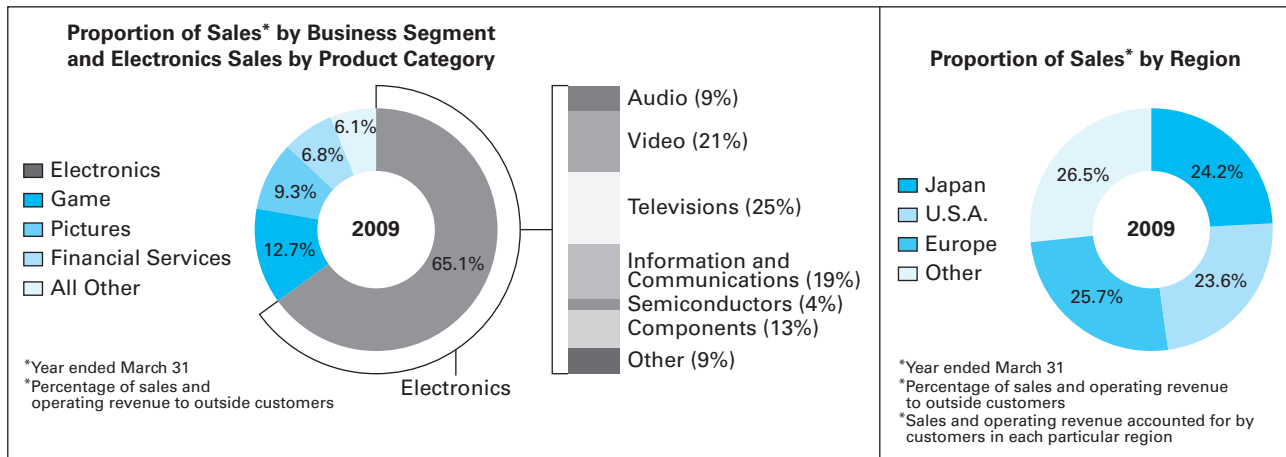
Sony's Overall Performance

A brief look at Sony's 2009 Annual Report for fiscal year 2008 (year-end of March 31, 2009) shows a grim picture of overall company performance. Sony has been lagging in its core businesses. Electronics and games divisions that together comprise 78 percent of Sony's sales both had posted losses.[24] The 2009 Annual Report outlined a wide array of changes to be implemented over the next couple of years. However, the most recent 2010 Annual Report for fiscal year 2009 (year-end of March 31, 2010) showed only slight improvement.
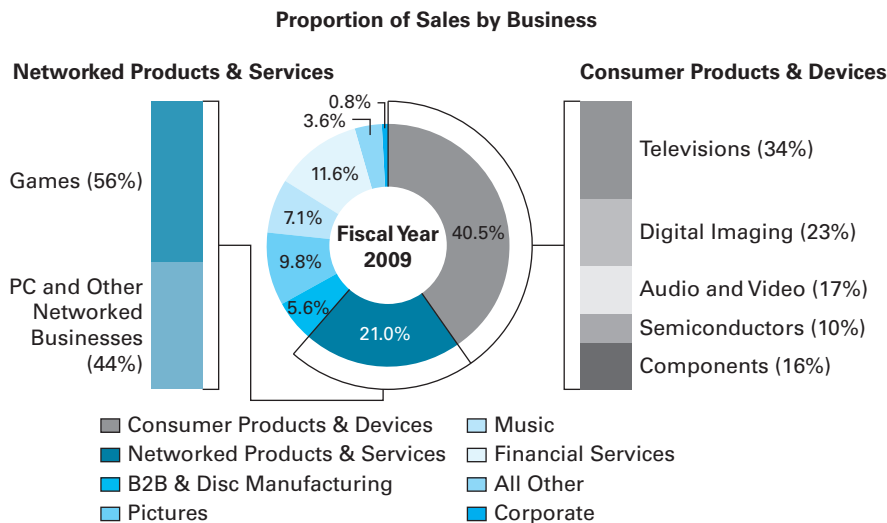
An analysis of Sony's market performance illustrates many current operational problems, including:

1. *Basic profitability problems.*
   Sony's net loss reported in the 2009 Annual Report for fiscal year (FY) 2008 amounted to ¥98.9 billion (approximately $1 billion). This was Sony's first annual loss in 14 years. For FY 2009, the net loss had been reduced to ¥40.8 (about $453 million) compared to the prior year.[25,26] The company's FY

Proportion of Sales* by Business Segment and Electronics Sales by Product Category

- Electronics
- Game
- Pictures
- Financial Services
- All Other

2009

6.1%
6.8%
9.3%
12.7%
65.1%

Audio (9%)
Video (21%)
Televisions (25%)
Information and Communications (19%)
Semiconductors (4%)
Components (13%)
Other (9%)

Electronics

*Year ended March 31
*Percentage of sales and operating revenue to outside customers

Proportion of Sales* by Region

- Japan
- U.S.A.
- Europe
- Other

2009

24.2%
23.6%
25.7%
26.5%

*Year ended March 31
*Percentage of sales and operating revenue to outside customers
*Sales and operating revenue accounted for by customers in each particular region

Source: Sony 2009 Annual Report (for fiscal year 2008).

Proportion of Sales by Business

Networked Products & Services

Games (56%)

PC and Other Networked Businesses (44%)

Fiscal Year 2009

0.8%
3.6%
11.6%
7.1%
9.8%
5.6%
21.0%
40.5%

Consumer Products & Devices

Televisions (34%)
Digital Imaging (23%)
Audio and Video (17%)
Semiconductors (10%)
Components (16%)

- Consumer Products & Devices
- Networked Products & Services
- B2B & Disc Manufacturing
- Pictures
- Music
- Financial Services
- All Other
- Corporate

Source: Sony 2010 Annual Report (for fiscal year 2009).

2008 year operating loss amounted to ¥227.8 billion. Among the largest contributors to the loss were (1) the Electronics division with ¥168 billion operating loss (declining earnings from Sony Ericsson, VAIO PCs, Handycam video cameras, BRAVIA LCD TVs), (2) the Games division with ¥58.5 billion operation loss (this division had losses for three years in a row), and (3) the Financial Services division with ¥31 billion operating loss. Only Sony's noncore businesses (Sony Pictures and Sony Music, shown in the graphs as the "All Other" division) had operated profitably in 2008–2009.[27] In FY 2009, the company was able to generate a ¥31.8 billion operating income; its revenue-generating forces were again only noncore divisions: Sony Music, Sony Pictures, and Financial Services.[28] Another disturbing sign for the company was a steady decrease in overall sales. Total sales reported for FY 2008 were ¥7.7 trillion (approximately

$86 billion), down 13 percent from the prior year.[29] For FY 2009, sales dropped further to ¥7.2 trillion.[30]

2. *Operations and supply-chain problems.*
Analysts viewed the company's supply chain as too large, complex, and poorly managed. In 2004–2005 Sony tried to optimize its supply chain by reducing the number of suppliers from 4,700 to 2,500.[31] Major restructuring initiatives were announced by new CEO Howard Stringer, the first non-Japanese CEO, after taking the position in 2005.[32] In spite of the restructuring, operations were not synchronized between divisions and departments, and it became apparent that Sony's operations and supply chain needed further improvement.[33] In FY 2008, additional restructuring ambitions were detailed: (1) cut suppliers from 2,500 to 1,200 by March 2011; (2) place higher volume orders with fewer suppliers to gain more purchasing power and extract better

prices; (3) reduce the number of plants from 57 to 49 and outsource a portion of production to low-cost OEM/ODM partners; (4) reduce the workforce by 16,000 (8,000 in the Electronics division); and (5) reorganize/merge several divisions (particularly Electronics and Games divisions) to enhance competitiveness, improve profitability, and accelerate innovation and growth.[34]

3. *Diversification problems.*
    Many believed the company had become overdiversified, which posed a threat to core business dilution. Many believed the company comprised too many divisions (electronics, games, pictures, music, financial services, etc.) and subdivisions.[35] One example of this problem was mounting losses at Sony's mobile phone venture with the Swedish company Ericsson. Sony recorded equity in net loss of Sony Ericsson of ¥34.5 billion for the fiscal year 2009, compared to a loss of ¥30.3 billion in the prior fiscal year.[36,37,38]

4. *Misdirected consumer focus.*
    Sony has been frequently criticized for being too focused on the Japanese market and on the consumer segment that is willing to pay a higher price for the product.[39] However, according to the 2009 and 2010 annual reports Sony's sales outside of Japan were 76 percent and 71 percent, respectively.[40,41] While Sony's penetration of global markets is impressive, it is notable that the percentage of sales outside of Japan fell over these two reporting periods. In addition, Sony has been criticized for not meeting consumer expectations and losing market share in different industries. For example, it gave up the lead in personal music players to Apple's popular iPod.[42] Also, it has been struggling to develop a telephone device that can compete with the iPhone.[43] A particularly bitter loss for Sony was when Nintendo outsold Sony's powerful PlayStation 3 video game console with the Wii, a simpler console for novice players.[44] For example, in November of 2006 Sony experienced production constraints with projected components shortages and quality problems. Sony could make only 400,000 units of PS3 in North America compared to Nintendo's 1.2 million due to lack of components for the Blu-Ray drive. In addition, Nintendo was lower priced ($250 compared to PS3 $500), which boosted consumer demand during the holiday season.[45]

Where Did Sony Go Wrong?

Sony's upsetting financial performance in recent years had posed questions about the company's deviation from its image of innovation and excellence. An interesting analysis of the various factors that were pivotal to Sony's leadership success and failure were presented by business and brand strategist Martin Roll.[46] Three major factors contributed to Sony's ascent to global supremacy in the consumer electronics sector:[47]

1. *Innovation.* Innovation, to a great extent, defined the brand character of Sony. Sony grew to global prominence due to its ability to constantly create products even before other companies could conceptualize them. Further, Sony had the ability to sense the hidden consumer demand and create entire product categories through its innovative products. When the Walkman was introduced into the market, there was no existing market for portable music. But Sony's innovative product brought about an entire generation of products and created a new category altogether. Such an innovative culture differentiated Sony from the other consumer electronics brands for a very long time.

2. *Visionary leadership.* Sony is a classic case proving the strategic importance of a visionary leader in carrying a brand to dizzying heights. Sony's management team, along with the CEO, was responsible for creating an environment that nurtured experimentation and innovation. Further, Sony was one of the early Asian brands to recognize the importance of branding, which was again supported and led by the management team.

3. *Pioneer advantage.* Given its innovative edge, Sony emerged as the pioneer in almost every sector that it was operating in. Being the first mover, or in many cases, the inventor of the category, Sony had great leeway in defining the rules of the game, as it were. It set the expectations for the other companies that entered the category. Also, the brand image was enhanced every time a competitor imitated Sony as it became an indirect way to accept Sony's leadership position. Being the pioneer also offered Sony an opportunity to make more mistakes, test new ideas, and experiment with innovative concepts.

Together these three factors were mutually supportive and, in effect, created a virtuous circle. The combination of factors pushed Sony into the exclusive club of iconic brands. But over the last decade, Sony seemed to have lost the magic formula. A number of critical missteps contributed to Sony's decline:[48]

1. *Unrelated diversification.* An important and unique factor that has distinguished several Asian businesses from other Western business is the extent of diversification. Controlled and managed largely by business families, companies blow up into conglomerates that do business in very diverse and unrelated industries. Many Asian companies such as Samsung and LG that have become global forces to reckon with also started as bloated conglomerates. But

these companies still focused on core competencies. For example, Samsung trimmed down its organization, withdrew from unrelated industries and channeled its resources around one or two dominant businesses. But Sony stuck to maintaining a presence—even expanding its multiple businesses. In some cases, this kind of unrelated or at best quasi-related diversification can drain the brand's resources and divert focus from the core of the brand.

2. *Innovation shortfall.* The Walkman made Sony the undisputed leader in the portable music player category. As is often the case, success can breed complacency. Sony did not follow up with any outstanding and innovative product lines to sustain the initial success. Apple came out with the iPod, which appealed to the younger generation worldwide, and also established iTunes as the standard from which consumers could download songs for a low price. This not only established Apple as the undisputed leader in the mobile music market but also helped to establish the industry standard. Sony has suffered similar challenges from many brands such as Samsung, Nokia, LG, and others in different product categories. Sony's lack of consumer-oriented innovation has contributed greatly to its decline in recent years.

3. *Lack of brand evolution.* Sony's brand identity surely is informed by an enormous amount of heritage, history, and achievements. But for a brand to be successful in the current ultra-competitive market, it has to make itself very relevant to the current customer segments. Resting on past laurels and expecting customers to support the brand due to its past achievements is not realistic. Sony has not been very successful in evolving as the brand for the masses of the twenty-first century. Apple, Samsung, and others have appropriated Sony's past position. The Sony brand has not been up with the times, and that has contributed to its slide from the top.

Sony's performance began to turn around in early 2010. It reported a first quarter profit of 25.7 billion yen ($294 million) and forecasted a 60 billion yen profit for the year ($695 million). Rising consumer interest in 3-D televisions and price cuts in the PlayStation game series helped boost demand.[49] Whether the OLED project can help bolster this performance and restore the once dominant home and personal electronics company is unclear. Sony has a lot to gain or lose, depending on the outcome.

Questions for Review

1. Why did Sony push back introduction of the OLED television? What was the advantage in waiting? What were the drawbacks? Was there a threat of moving to market with new technology too fast? How might the delayed introduction affect Sony's reputation among consumers, enthusiasts, and Sony's own R&D personnel?

2. What competitive threats does Sony face? From which companies and geographic regions? How does Sony stack up against these competitors?

3. Is it possible for a diversified company like Sony to be an innovation leader and stay profitable? What does its recent company performance suggest?

4. Should Sony's R&D efforts be focused on a limited number of "core" products or should it aim to be an innovation leader in each single business subsegment that it has? Do you think Sony should subsidize the unsuccessful R&D efforts that produce products which do not turn profits?

5. Do you think excessive diversification is Sony's problem? Do you think the problem is that Sony's products are targeting the upscale high-income consumer group, when most consumers are looking for cheap affordable goods? Why or why not?

Tata "Nano": The People's Car

Nano, India's first "People's car," may soon earn a place in history alongside Ford's Model T, Volkswagen's Beetle, and the British Motor Corp.'s Mini, all of which made automotive travel within reach of millions of customers who had previously been locked out of the car market. In January 2008 during India's main auto show in New Delhi, Tata Motors introduced to the Indian public its ultra-cheap car "Nano" that was expected to retail for as little as the equivalent of $2,500, or about the price of the optional DVD player on the Lexus LX 470 sport utility vehicle.[1] This event had driven unprecedented public attention, since Tata's new vehicle was projected to revolutionize the auto industry.[2]

The emergence of Tata Motors on the global auto scene marks the advent of India as a global center for small-car production and represents a victory for those who advocate making cheap goods for potential customers at the "bottom of the pyramid" in emerging markets. Most of all, the car could give millions of people now relegated to lesser means of transportation the chance to drive cars.[3] In India, there were fewer than 10 cars for every thousand people in 2007, compared with 40 per thousand in China, and 450 in the U.S. Far more middle-class Indians bought and transported their entire families on scooters.[4]

According to some analysts, Tata Motor's Chairman Ratan Tata hopes to use the Nano to become the Henry Ford of emerging India, in part, by offering a car at a fraction of the price of rival products. The company is gambling that its tiny price tag will make it appealing to Indians who now drive motorcycles and scooters.

While India's population is more than 1 billion people, only around 1 million passenger cars were sold in the country in 2007, one-tenth as many as in China. By contrast, more than 7 million motorcycles and scooters were sold. Mr. Tata said the tiny car is aimed at keeping the families of India's growing middle class from having to travel with as many as four people on a scooter.[5]

Speaking at the unveiling ceremony at the 9th Auto Expo in New Delhi, Ratan Tata said, "I observed families riding on two-wheelers—the father driving the scooter, his young kid standing in front of him, his wife seated behind him holding a little baby. It led me to wonder whether one could conceive of a safe, affordable, all-weather form of transport for such a family. Tata Motors' engineers and designers gave their all for about four years to realize this goal. Today, we indeed have a People's Car, which is affordable and yet built to meet safety requirements and emission norms, to be fuel efficient and low on emissions. We are happy to present the People's Car to India and we hope it brings the joy, pride and utility of owning a car to many families who need personal mobility."[6]

Middle-class household incomes in India start at roughly $6,000 a year, so a $3,000 car is the kind of innovation that could create millions of new drivers. Eight million Indians currently own cars, according to the Mumbai-based credit-rating agency Crisil. Another 18 million have the means to buy one. However, the Nano could increase that pool of potential auto owners by as much as 65 percent, to 30 million. "This goes beyond economics and class," says Ravi Kant, managing director of Tata Motors. "This crosses the urban-rural divide. Now a car is within the reach of people who never imagined they would own a car. It's a triumph for our company. And for India."[7]

Designed with a Family in Mind

Though Nano's design triggered different comments from the public—some people called it handsome;[8] others called it egg shaped[9]—overall Tata Motors was very proud of the design, which was developed with a family in mind.[10] From Tata's perspective the new Nano addresses several key characteristics that Indian families would prize in a car: low price, adequate comfort, fuel-efficiency, and safety.

According to Tata, Nano has a roomy passenger compartment with generous leg space and head room, and it can comfortably seat four persons. Four doors with high seating position make ingress and egress easy. With a snub nose and a sloping roof, the world's cheapest car can hold five people—if they squeeze.[11] Nano's dimensions are as follows: length of 3.1 meters, width of 1.5 meters, and height of 1.6 meters. Tata suggests these compact dimensions should allow the car to effortlessly maneuver on busy roads in cities as well as in rural areas. Its mono-volume design, with wheels at the corners and the power train at the rear, enables it to combine both space and maneuverability.[12] At 10 feet long, the Nano is about 2 feet shorter than a Mini Cooper.[13]

The car is available in both standard and deluxe versions. According to the company, both versions offer a wide range of body colors and other accessories so that

the car can be customized to an individual's preferences.[14] But reviewers called the basic version spare: There's no radio, no air bags, no passenger-side mirror, and only one windshield wiper. If you want air conditioning to cope with India's brutal summers, you need to get the deluxe version.

According to the company, Nano has a fuel-efficient engine powered by the lean design strategy that has helped minimize weight, maximize performance per unit of energy consumed, and deliver higher fuel efficiency.[15] The final design stands at 1,322 pounds, 528 pounds lighter than the flyweight Honda Insight. To power it, the engineers settled on a 33-horsepower, 623-cc, two-cylinder engine housed in the rear; to service it, the mechanic must remove a set of bolts in the 5.4-cubic-foot trunk. The payoff: an uncommonly efficient 47 miles per gallon running at top speed (65 mph). But that doesn't mean Nano owners won't spend a lot of time pumping gas—the minuscule tank holds just 3.9 gallons.[16]

According to the company, the People's Car's safety performance exceeds current Indian regulatory requirements. With an all-sheet-metal body, it has a strong passenger compartment, with safety features such as crumple zones, intrusion-resistant doors, seat belts, strong seats and anchorages, and the rear tailgate glass bonded to the body. Tubeless tires further enhance safety. Tata also placed emphasis on environmental friendliness. According to a corporate press release the People's Car's tailpipe emission performance exceeds regulatory requirements. In terms of overall pollutants, it has a lower pollution level than two-wheelers being manufactured in India today.[17]

About Tata Motors

Tata Motors is a part of the Tata Group. The Tata Group is considered the General Electric of India, a sprawling conglomerate with a commanding presence in media, telecom, outsourcing, retailing, and real estate. Started in 1868 as a textile wholesaler, the company branched out into luxury hotels after, as legend has it, founder Jamsetji Tata was turned away from a posh establishment because of his skin color. In 1945, a few years before the British left India, Tata created Tata Motors and started producing locomotives and, eventually, autos. In 1998, Tata Motors introduced the country's first indigenously designed car. The homegrown Indica, which now sells for around $6,000, became ubiquitous as a taxi.[18]

Meanwhile, the Tata Group has been expanding globally. It bought the tea company Tetley in 2000 and acquired Anglo-Dutch steel giant Corus in 2007. It maintains Tata Consultancy Services offices in 54 countries and owns hotels in Boston, New York, and San Francisco. In March 2008, Tata Motors bought Jaguar and Land Rover from the financially strangled Ford Motors.[19]

Tata Motors listed on the New York Stock Exchange in 2004. After thousands of changes, in the quarter ending December 2006 Tata earned $116 million on revenue of $1.55 billion. Annual revenue grew to $5.2 billion for the fiscal year ending in March 2006.[20] Now Tata Motors Limited is India's largest automobile company, with consolidated revenues of Rs.70,938.85 crores (US$14 billion) in 2008–2009. It is the leader in commercial vehicles in each segment, and among the top three in passenger vehicles with winning products in the compact, midsize car, and utility vehicle segments. The company is the world's fourth largest truck manufacturer, and the world's second largest bus manufacturer. The company's 24,000 employees are guided by the vision to be "best in the manner in which we operate, best in the products we deliver, and best in our value system and ethics."[21]

Established in 1945, Tata Motors' presence cuts across the length and breadth of India. Over 4 million Tata vehicles ply on Indian roads, since they first rolled out in 1954. The company's manufacturing base in India is spread across Jamshedpur (Jharkhand), Pune (Maharashtra), Lucknow (Uttar Pradesh), Pantnagar (Uttarakhand), and Dharwad (Karnataka). Following a strategic alliance with Fiat in 2005, it has set up an industrial joint venture with Fiat Group Automobiles at Ranjangaon (Maharashtra) to produce both Fiat and Tata cars and Fiat powertrains. The company is establishing a new plant at Sanand (Gujarat). The company's dealership, sales, services, and spare parts network comprises over 3,500 touch points; Tata Motors also distributes and markets Fiat branded cars in India.[22]

Tata Motors has also emerged as an international automobile company. Through subsidiaries and associate companies, Tata Motors has operations in the U.K., South Korea, Thailand, and Spain. Among them is Jaguar Land Rover, a business comprising the two iconic British brands that was acquired in 2008. In 2004, it acquired the Daewoo Commercial Vehicles Company, South Korea's second largest truck maker. The rechristened Tata Daewoo Commercial Vehicles Company has launched several new products in the Korean market, while also exporting these products to several international markets. Today two-thirds of heavy commercial vehicle exports out of South Korea are from Tata Daewoo.[23]

In 2005, Tata Motors acquired a 21 percent stake in Hispano Carrocera, a well regarded Spanish bus and coach manufacturer, and subsequently the remaining stake in 2009. Hispano's presence is being expanded in other markets. In 2006, Tata Motors formed a joint venture with the Brazil-based Marcopolo, a global leader in body building for buses and coaches, to manufacture fully built buses and coaches for India and select international markets. In 2006, Tata Motors entered into joint venture with Thonburi Automotive Assembly Plant Company of Thailand to manufacture and market the company's pickup vehicles in Thailand. The new plant of Tata Motors (Thailand) has begun production of the Xenon pickup truck, with the Xenon having been launched in Thailand in 2008.[24]

Tata Motors is also expanding its international footprint, established through exports since 1961. The company's commercial and passenger vehicles are already being marketed in several countries in Europe, Africa, the Middle East, South East Asia, South Asia, and South America. It has franchisee/joint venture assembly operations in Kenya, Bangladesh, Ukraine, Russia, Senegal, and South Africa. Through its subsidiaries, the company is engaged in engineering and automotive solutions, construction equipment manufacturing, automotive vehicle components manufacturing and supply chain activities, machine tools and factory automation solutions, high-precision tooling and plastic and electronic components for automotive and computer applications, and automotive retailing and service operations.[25]

The foundation of the company's growth over the last 50 years is a deep understanding of economic stimuli and customer needs, and the ability to translate them into customer-desired offerings through leading-edge R&D. With over 3,000 engineers and scientists, the company's Engineering Research Centre, established in 1966, has enabled pioneering technologies and products. The company today has R&D centers in Pune, Jamshedpur, Lucknow, Dharwad in India, and in South Korea, Spain, and the U.K. It was Tata Motors which developed the first indigenously developed Light Commercial Vehicle, India's first Sports Utility Vehicle, and, in 1998, the Tata Indica, India's first fully indigenous passenger car. Within two years of launch, Tata Indica became India's largest selling car in its segment. In 2005, Tata Motors created a new segment by launching the Tata Ace, India's first indigenously developed mini-truck. In January 2008, Tata Motors unveiled its People's Car, the Tata Nano, which was launched in India in March 2009.[26]

Tata Motors is equally focused on environment-friendly technologies in emissions and alternative fuels. It has developed electric and hybrid vehicles both for personal and public transportation. It has also been implementing several environment-friendly technologies in manufacturing processes, significantly enhancing resource conservation.[27]

Tata Motors is committed to improving the quality of life of communities by working on four thrust areas: employability, education, health, and environment. The firm's activities touch the lives of more than a million citizens. Its support for education and employability is focused on youth and women, ranging from schools to technical education institutes, to actual facilitation of income generation. In health, Tata's intervention is in both preventive and curative health care. The goal of environment protection is achieved through tree plantations, conserving water and creating new water bodies, and, last but not least, introducing appropriate technologies in Tata vehicles and operations for constantly enhancing environment care.[28]

Tata Motors Milestones

It has been a long and accelerating journey for Tata Motors until it became India's leading automobile manufacturer. Here are some significant milestones in the company's journey toward excellence and leadership:[29]

1945 • Tata Engineering and Locomotive Co. Ltd. was established to manufacture locomotives and other engineering products.

1948 • Steam road roller introduced in collaboration with Marshall Sons (U.K.).

1954 • Collaboration with Daimler Benz AG, West Germany, for manufacture of medium commercial vehicles. The first vehicle rolled out within 6 months of the contract.

1959 • Research and Development Centre set up at Jamshedpur.

1961 • Exports begin with the first truck being shipped to Ceylon, now Sri Lanka.

1966 • Setting up of the Engineering Research Centre at Pune to provide impetus to automobile Research and Development.

1971 • Introduction of DI engines.

1977 • First commercial vehicle manufactured in Pune.

1983 • Manufacture of Heavy Commercial Vehicle commences.

1985 • First hydraulic excavator produced with Hitachi collaboration.

1986 • Production of first light commercial vehicle, Tata 407, indigenously designed, followed by Tata 608.

1989 • Introduction of the Tatamobile 206—3rd LCV model.

1991 • Launch of the 1st indigenous passenger car Tata Sierra.
   • TAC 20 crane produced.
   • One millionth vehicle rolled out.

1992 • Launch of the Tata Estate.

1993 • Joint venture agreement signed with Cummins Engine Co. Inc. for the manufacture of high horse-power and emission friendly diesel engines.

1994 • Launch of Tata Sumo—the multi utility vehicle.
   • Launch of LPT 709—a full forward control, light commercial vehicle.
   • Joint venture agreement signed with M/s Daimler-Benz/Mercedes-Benz for manufacture of Mercedes Benz passenger cars in India.
   • Joint venture agreement signed with Tata Holset Ltd., U.K., for manufacturing turbochargers to be used on Cummins engines.

1995 • Mercedes Benz car E220 launched.

1996 • Tata Sumo deluxe launched.

1997 • Tata Sierra Turbo launched.
   • 100,000th Tata Sumo rolled out.

1998 • Tata Safari—India's first sports utility vehicle launched.
   • 2 millionth vehicle rolled out.
   • Indica, India's first fully indigenous passenger car, launched.

1999 • 115,000 bookings for Indica registered against full payment within a week.
   • Commercial production of Indica commences in full swing.

2000 • First consignment of 160 Indicas shipped to Malta.
   • Indica with Bharat Stage 2 (Euro II) compliant diesel engine launched.

- Utility vehicles with Bharat 2 (Euro II) compliant engine launched.
- Indica 2000 (Euro II) with multi point fuel injection petrol engine launched.
- Launch of CNG buses.
- Launch of 1109 vehicle—an Intermediate commercial vehicle.

2001
- Indica V2 launched—2nd generation Indica.
- 100,000th Indica wheeled out.
- Launch of CNG Indica.
- Launch of the Tata Safari EX.
- Indica V2 becomes India's number one car in its segment.
- Exits joint venture with Daimler Chrysler.

2002
- Unveiling of the Tata Sedan at Auto Expo 2002.
- Petrol version of Indica V2 launched.
- Launch of the EX series in commercial vehicles.
- Launch of the Tata 207 DI.
- 200,000th Indica rolled out.
- 500,000th passenger vehicle rolled out.
- Launch of the Tata Sumo'+' Series.
- Launch of the Tata Indigo.
- Tata Engineering signed a product agreement with MG Rover of the U.K.

2003
- Launch of the Tata Safari Limited Edition.
- The Tata Indigo Station Wagon unveiled at the Geneva Motor Show.
- On 29th July, J. R. D. Tata's birth anniversary, Tata Engineering becomes Tata Motors Limited.
- 3 millionth vehicle produced.
- First CityRover rolled out.
- 135 PS Tata Safari EXi Petrol launched.
- Tata SFC 407 EX Turbo launched.

2004
- Tata Motors unveils new product range at Auto Expo '04.
- New Tata Indica V2 launched.
- Tata Motors and Daewoo Commercial Vehicle Co. Ltd. sign investment agreement.
- Indigo Advent unveiled at Geneva Motor Show.
- Tata Motors completes acquisition of Daewoo Commercial Vehicle Company.
- Tata LPT 909 EX launched.
- Tata Daewoo Commercial Vehicle Co. Ltd. (TDCV) launches the heavy duty truck NOVUS, in Korea.
- Sumo Victa launched.
- Indigo Marina launched.
- Tata Motors lists on the NYSE.

2005
- Tata Motors rolls out the 500,000th passenger car from its Car Plant Facility in Pune.
- The Tata Xover unveiled at the 75th Geneva Motor Show.
- Branded buses and coaches—Starbus and Globus—launched.
- Tata Motors acquires 21% stake in Hispano Carrocera SA, Spanish bus manufacturing company.
- Tata Ace, India's first mini truck launched.
- Tata Motors wins JRD QV award for business excellence.
- The power packed Safari Dicor is launched.
- Introduction of Indigo SX series, luxury variant of Tata Indigo.

- Tata Motors launches Indica V2 Turbo Diesel.
- One millionth passenger car produced and sold.
- Inauguration of new factory at Jamshedpur for Novus.
- Tata TL 4X4, India's first Sports Utility Truck (SUT), is launched.
- Launch of Tata Novus.
- Launch of Novus range of medium trucks in Korea, by Tata Daewoo Commercial Vehicle Co. (TDCV).

2006
- Tata Motors vehicle sales in India cross four million mark.
- Tata Motors unveils new long wheel base premium Indigo & X-over concept at Auto Expo 2006.
- Indica V2 Xeta launched.
- Passenger vehicle sales in India cross one-million mark.
- Tata Motors and Marcopolo, Brazil, announce joint venture to manufacture fully built buses and coaches for India and markets abroad.
- Tata Motors first plant for small car to come up in West Bengal.
- Tata Motors extends CNG options on its hatchback and estate range.
- TDCV develops South Korea's first LNG-Powered Tractor-Trailer.
- Tata Motors and Fiat Group announce three additional cooperation agreements.
- Tata Motors introduces a new Indigo range.

2007
- Construction of Small Car plant at Singur, West Bengal, begins on January 21.
- New 2007 Indica V2 range is launched.
- Tata Motors launches the longwheel base Indigo XL, India's first stretch limousine.
- Common rail diesel (DICOR) engine extended to Indigo sedan and estate range.
- Tata Motors and Thonburi Automotive Assembly Plant Co. (Thonburi) announce formation of a joint venture company in Thailand to manufacture, assemble, and market pickup trucks.
- Rollout of 100,000th Ace.
- Tata-Fiat plant at Ranjangaon inaugurated.
- Launch of a new upgraded range of its entry level utility vehicle offering, the Tata Spacio.
- CRM-DMS initiative crosses the 1,000th location milestone.
- Launch of Magic, a comfortable, safe, four-wheeler public transportation mode, developed on the Ace platform.
- Launch of Winger, India's only maxi-van.
- Fiat Group and Tata Motors announce establishment of Joint Venture in India.
- Launch of the Sumo Victa Turbo DI, the new upgraded range of its entry-level utility vehicle, the Sumo Spacio.
- Tata Motors launches Indica V2 Turbo with dual airbags and ABS.
- Launch of new Safari DICOR 2.2 VTT range, powered by a new 2.2 L Direct Injection Common Rail (DICOR) engine.
- Rollout of the one millionth passenger car off the Indica platform.

2008
- Ace plant at Pantnagar (Uttarakhand) begins production.
- Indica Vista, the new generation Indica, is launched.
- Tata Motors' new plant for Nano to come up in Gujarat.
- Latest common rail diesel offering, the Indica V2 DICOR, launched.
- Indigo CS (Compact Sedan), world's first sub four-metre sedan, launched.
- Launch of the new Sumo—Sumo Grande, which combines the looks of an SUV with the comforts of a family car.
- Tata Motors unveils its People's Car, Nano, at the ninth Auto Expo.
- Xenon, 1-ton pickup truck, launched in Thailand.
- Tata Motors signs definitive agreement with Ford Motor Company to purchase Jaguar and Land Rover.
- Tata Motors completes acquisition of Jaguar Land Rover.
- Tata Motors introduces new Super Milo range of buses.
- Tata Motors is Official Vehicle Provider to Youth Baton Relay for The III Commonwealth Youth Games, Pune 2008.
- Indica Vista, the second generation Indica, is launched.
- Tata Motors launches passenger cars and the new pickup in D.R. Congo.

2009
- Tata Motors begins distribution of Prima World truck.
- Tata Motors launches the next generation all-new Indigo MANZA.
- FREELANDER 2 launched in India.
- Tata Marcopolo Motors' Dharwad plant begins production.
- Tata Motors launches Nano—The People's Car.
- Introduction of new world standard truck range.
- Launch of premium luxury vehicles Jaguar XF, XFR, and XKR and Land Rover Discovery 3, Range Rover Sport, and Range Rover from Jaguar and Land Rover in India.

Secrets behind the Low Price

How could Tata Motors make a car so inexpensively? It started by looking at everything from scratch, applying what some analysts have described as "Gandhian engineering" principles—deep frugality with a willingness to challenge conventional wisdom. A lot of features that Western consumers take for granted—air conditioning, power brakes, radios, etc.—are missing from the entry-level model.[30]

In order to succeed with building a low-cost affordable car, Tata Motors began by studying and trying to understand the customer. What do the customers need? What do they really want? What can they afford? The customer was ever-present in the development of the Nano. Tata didn't set the price of the Nano by calculating the cost of production and then adding a margin. Rather it set $2,500 as the price that it thought customers could pay and then worked backward, with the help of partners willing to take on a challenge, to build a $2,500 car that would reward all involved with a small profit.[31]

More fundamentally, the engineers worked to do more with less. Tata has been able to slash the price by asking his engineers and suppliers to redesign the many components to cut costs. The speedometer, for example, is in the center of the dashboard over the air vents, not behind the steering wheel, so the dashboard can be build with fewer parts.[32] To save $10, Tata engineers redesigned the suspension to eliminate actuators in the headlights, the levelers that adjust the angle of the beam depending on how the car is loaded, according to Mr. Chaturvedi of Lumax. In lieu of the solid steel beam that typically connects steering wheels to axles, one supplier, Sona Koyo Steering Systems, used a hollow tube, said Kiran Deshmukh, the chief operating officer of the company, which is based in Delhi.[33]

Also, Nano is smaller in overall dimensions than the Suzuki Maruti, a similar but higher priced low-cost competitor assembled in India, but it offers about 20 percent more seating capacity as a result of design choices such as putting the wheels at the extreme edges of the car. The Nano is also much lighter than comparable models as a result of a reduction in the amount of steel in the car (including the use of an aluminum engine) and the use of lightweight steel where possible.[34]

However, Nano engineers and partners didn't simply strip features out of an existing car to create a new low-cost model, which most other manufacturers have done when making affordable cars. Instead, they looked at their target customers' lives for cost-cutting ideas. So, for instance, the Nano has a smaller engine than other cars because more horsepower would be wasted in India's jam-packed cities, where the average speed is 10 to 20 miles per hour.[35] The car currently meets all Indian emission, pollution, and safety standards, although it only attains a maximum speed of about 65 mph. The fuel efficiency is also attractive to economy-driven consumers—nearly 50 miles to the gallon.[36]

Nano ultimately became a triumph of creativity and innovation. For example, Tata Motors has filed for 34 patents associated with the design of the Nano, although some suggest that measuring progress solely by patent creation misses a key dimension of innovation. Some of the most valuable innovations take existing, patented components and remix them in ways that more effectively serve the needs of large numbers of customers. The most innovative aspect of the Nano is its modular design. The Nano is constructed of components that can be built and shipped separately to be assembled in a variety of locations. In effect, the Nano is being sold in kits that are distributed, assembled, and serviced by local entrepreneurs.[37]

As Ratan Tata, chairman of the Tata group of companies, observed in an interview with *The Times* of London: "A bunch of entrepreneurs could establish an assembly operation and Tata Motors would train their people, would oversee their quality assurance and they would become satellite assembly operations for us. So we would create

entrepreneurs across the country that would produce the car. We would produce the mass items and ship it to them as kits. That is my idea of dispersing wealth. The service person would be like an insurance agent who would be trained, have a cell phone and scooter and would be assigned to a set of customers."[38]

This is part of a broader pattern of innovation emerging in India in a variety of markets, ranging from diesel engines and agricultural products to financial services. In fact, Tata envisions going even further, providing the tools for local mechanics to assemble the car in existing auto shops or even in new garages created to cater to remote rural customers.[39]

Struggling with a Production Site

In spite of Tata's great commitment to meet the transportation needs of the poor Indian population and its pledge that the price of the car would not exceed $2,500 equivalent, the company experienced a major challenge due to unexpected problems at Tata's proposed manufacturing plant in Singur, in the eastern state of West Bengal, India, that could have stopped the whole Nano project right at the start.

In May 2006 Tata Motors announced that it would be manufacturing Nano in Singur, West Bengal, India.[40] Tata made plans to acquire the land and build the plant for the sole purpose of producing the Nano. The entire project, including the purchase of more than 600 acres of land, reportedly cost Tata Motors upwards of $350 million.[41]

The problems began immediately following Tata's purchase of the property from the West Bengal government.[42] Prior to the purchase, the government didn't actually own the land, but acquired it from local farmers by imposing the force of eminent domain.[43] The Communist government of West Bengal was interested in bringing Tata Motors to its state since it saw the Nano project as key to rejuvenating industries in West Bengal, a poor region that was traditionally focused on farming. Trouble began after the government took over 1,000 acres (400 hectares) of farmland for the factory. The government offered compensation, but some farmers with smaller land holdings refused that compensation, demanding that land be given back to them. The disputed land measured about 400 acres.[44]

The protests hinged upon allegations that Tata forced farmers from their land and handed out payments that were a fraction of the land's value. Mamata Banerjee, the fiery chief of the Trinamool Congress, the West Bengali political party staging the protest, demanded that Tata Motors return 400 acres of land surrounding the Nano factory to these farmers. Tata Motors stated that this land was necessary for 60 parts suppliers to the Nano. The company argued that keeping parts suppliers close to the plant was vital to maintaining the Nano's extremely low cost.[45]

At the peak of the protests in September 2008, over 30,000 activists and farmers besieged Singur, in West Bengal state, to rally against the plant, reiterating their claim that the land was forcibly taken from farmers and that compensation was inadequate. The highway leading to Singur was blockaded and Tata Motors was forced to evacuate employees from the plant site. In response, the company threatened to walk out of West Bengal if the agitation was not quickly quelled.[46]

According a statement released by Tata Motors in September 2008, work on the factory was close to completion. Up to 4,000 workers, including "several hundred young residents from around the [Singur] region" were said to have been employed by the factory during its construction. But continuing the work with the ongoing protests proved too risky. Employees failed to show up for work after threats from protestors. The protests also snarled traffic in the region. Trucks loaded with food were left on highways, their contents rotting in the sun.[47]

Ratan Tata, chairman of the Tata Group and Tata Motors, expressed concern that the factory in Singur was at serious risk. Commenting on the situation, a Tata Motors spokesperson said, "The situation around the Nano plant continues to be hostile and intimidating. There is no way this plant could operate efficiently unless the environment became congenial and supportive of the project. We came to West Bengal hoping we could add value, prosperity and create job opportunities in the communities in the state."[48]

The dispute reflected a larger standoff between industry in India and farmers unwilling to part with land in a country where two-thirds of the billion-plus population depends on agriculture. Unable to get satisfactory resolution of the dispute, on September 2, 2008, Tata Motors announced that violent protests had forced it to suspend all work at the plant. Tata Motors also said it was putting together a detailed plan for the relocation of the plant and machinery, and was evaluating options for manufacturing the Nano at other company facilities.[49]

By October, the Singur protests had grown in size and intensity. Highways surrounding the factory were at a standstill, and workers were being threatened. Tata finally abandoned the Singur factory, in which it had invested $350 million.[50] However, by that time the company had received an invitation from another state to relocate its Nano project. On October 7, 2008, the Gujarat government and Tata Motors signed a MoU (memorandum of understanding)[51] in Ahmedabad, bringing the ambitious Nano project to that state. Gujarat Chief Minister Narendra Modi announced allocation of 11,000 acres of land at Sanand near Ahmedabad to Tata Motors. The state government promised Tata various tax rebates and ready land along with connectivity to the national highway. In addition, the company was assured that no bandh (*bandh,* originally a Hindi word meaning "closed," is a form of protest used by political activists in some countries in South Asia like India and Nepal)[52] or labor unrest would delay the project.[53]

Despite the Gujarat government's assurances regarding the safe and friendly business environment in its state, the relocation of the plant to a new state was not painless. In December 2008, several farmers filed a case against the local Indian government and Tata Motors, demanding better compensation for land sold to support the Gujarat factory, India.[54] Tata was pressured to find a quick solution. Ultimately, it decided that Nano production would begin at Tata's existing factory in Pantnagar in the northern state of Uttarakhand after receiving an additional allotment of land from the Uttarakhand government to expand the Pantnagar factory for Nano production. It became apparent that sales of the Nano in India, originally scheduled for October of 2008, would not begin until next spring of 2009.[55]

Nano's 2009 Launch

Even though Tata was expected to solve the transportation problem for thousands of Indians, and Nano's launch was a highly awaited public event, sales of the Nano were delayed by at least six months after the land disputes.[56] However, when Tata eventually announced Nano's 2009 production plans, it quickly started generating the orders at volumes that far exceeded expectations. As of May 2009, according to *Bloomberg* analysts, Tata Motors had received 203,000 orders for its Nano, more than double the initial sales plan. The company accepted the bookings between April 9 and April 25, amounting to almost 25 billion rupees ($501 million), according to Tata Motors release. Deliveries were planned to start in July of 2009 and were expected to be completed in the last quarter of 2010, according to the company.[57]

Surging demand from first-time buyers and motorcyclists in India contrasted with plunging automobile sales in the U.S. and Europe where job losses and economic recession were keeping consumers away from showrooms. "The Nano has the potential to become a game-changer for Tata in the long run," said Gaurav Lohia, an analyst at K.R. Choksey Shares & Securities Pvt. in Mumbai. "Once you generate the volumes, you are the king."[58]

According to the Society of Indian Automobile Manufacturers, the [Nano] bookings represented about 17 percent of the 1.22 million passenger cars sold in India, Asia's fourth-largest automobile market, in the fiscal year ended March. Maruti Suzuki India Ltd., maker of half the cars sold in the country, sold 636,707 units while Hyundai Motor Co. sold 244,030 and Tata Motors sold 160,446.[59]

Due to its manufacturing capacity constraints, Tata Motors would not be able to fill all the orders as quickly as expected. The first Nanos were to roll out of the Pantnagar plant which could produce only 60,000 units a year. Annual output was projected to increase by a further 350,000 units when the facility at Sanand in western India was completed at the end of 2009. Therefore, Tata Motors announced that it would choose the first 100,000 customers

for the $2,500 Nano by a lottery, leaving the company with at least a year of production as backlog.[60]

Global Race for Low-Cost Cars

The Nano is part of a global race to lower the prices of entry-level cars for millions of new developing world consumers. As growth slows in developed markets in the West, auto makers are looking to tap the rapid growth in countries like India, China, and Brazil, where the lowest priced cars are often the best sellers. Maruti Suzuki India Ltd., which is controlled by Japan's Suzuki Motor Corp., has dominated the Indian market for decades; its least expensive model today sells for around $5,000.[61]

Now that Tata Motors has shown the way, competitors are scrambling to offer their own budget vehicles. For example, Ford Motor Co. announced plans to build a new small car in India that will have a sticker price as low as $7,500. Nissan Motor Co. has plans for a $7,000 and then a $5,000 car in the next few years. German auto maker Volkswagen AG said it would also start to make small cars at a new plant in 2010.[62] Hyundai has announced a $3,700 car. Renault-Nissan has teamed with Indian motorcycle maker Bajaj to put 400,000 of its own ultra-low-cost cars on the road by 2011. General Motors is rumored to be working on a Nano-killer with China's Wuling Automotive. By 2020, millions of ultra-low-cost vehicles will crowd narrow alleyways throughout the world. Thus, what happened in Bangalore would presage changes to come in Lagos, Rio de Janeiro, and Budapest.[63]

The global market for the Nano and similarly low-priced cars could be immense—the World Bank counts more than 800 million people who earn between $3,600 and $11,000 annually. In India, the new vehicle could change the taxi business overnight and energize a cadre of small-time entrepreneurs by providing new levels of mobility, carrying capacity, and social status.[64]

In spite of glamorous projections of high demand for low-cost cars, some analysts pose serious concerns of the overall profitability of budget car manufacturing. With the rising competition in the low-cost vehicle market, increasing cost pressure and small profit margins, will the new budget car models be able to recoup the R&D investment and generate any profits? For example, on the eve of the Nano launch, Mr. Tata said in an interview that developing the new model cost between $380 million and $435 million. He said without a better idea of future input costs and demand, he could not predict how soon the project would turn a profit or what the profit margin on the cars would be. Should steel prices continue to rise, prices may have to be adjusted.[65]

As long as the Nano runs as well as it looks and avoids major quality issues, Tata Motors should have no trouble selling it to hundreds of thousands of Indian families a year, analysts say. Still, at such a low price it could take a long time for Tata to recoup its investment in developing

the world's cheapest car. With profit margins as low as 5 percent, it could take more than five years for the project to be in the black, estimated Vaishali Jajoo, senior research analyst at Angel Broking in Mumbai. "It depends on how the margins will be," and at this price they are going to be very low, she said.[66]

However, although the competition in the low-cost vehicle market will remain fierce, Tata Motors now has a significant benefit relative to its competitors, which is called in business language "the first mover advantage." Anil K. Gupta and Haiyan Wang, two experts on India and China, said in a *BusinessWeek* article that Tata's Nano should be viewed as not just a product for an identified market need today but also as a platform for tomorrow. The key to leveraging any product or service as a platform for future growth is to treat it as a bundle of capabilities instead of becoming overly constrained by its current features, branding, distribution channels, or targeted customers. Underlying capabilities—either singly or in combination—can be leveraged across different markets far more easily than is the case with end products or services (look at corporate intranet searches powered by Google). They can also be upgraded and/or combined with new capabilities to create entirely new products and services (this is how the iPod led to the iPhone/iPod Touch).[67]

According to Gupta and Wang, many companies overlook this aspect of global production and marketing. Tata Motors, on the other hand, shows a grasp of this concept in establishing the Nano as a platform for further growth. While competitors are struggling to develop low-cost models for the Indian market, Tata has now broadened its plans and will bring its low budget car to other markets, including Europe and North America. As a start, it will begin selling its car in Nigeria in 2010. Tata is talking about launching upgraded models of the car at about $8,000 in Europe by 2011 and in North America by 2012. (The Nano has already passed European crash-test safety standards.) The company is reportedly also working on hybrid and all-electric versions of the Nano.[68]

The entrance of Tata's Nano into European and U.S. markets may be potentially devastating to financially strangled automakers such as Ford and GM. As Gupta and Wang have pointed out, viewed from the lens of underlying capabilities, the Nano is not just a particular type of car designed for the peculiarities of the Indian market. It is also a bundle of proprietary technologies, supplier relationships, and a mindset that prizes frugal engineering. These capabilities, when applied to the needs of the rich European and North American markets, could easily result in an upgraded car that may sell for, say, $8,000 and give a competitor whose product sells for $12,000 a run for its money. As global auto companies look at the Nano, the question they should ask is not whether customers in the rich economies would care for such an inexpensive-but-simple car, but whether Tata Motors could show up in their backyards with a competitive or better product that sells for 30–35 percent lower prices than their own in these markets.[69]

Tata Touching U.S. Ground

Tata showcased its Nano in United States in January 2010 at the Detroit auto show and generated its first feedback from potential American customers. The comments ranged from highly skeptical to very optimistic. Some people said that Nano would have to go through many upgrades in order to win the American consumer and in order to meet the safety requirements. For example, in most American cars, safety features alone cost more than $2,500, according to Adrian Lund, president of the Insurance Institute for Highway Safety in Arlington, VA.[70]

As far as American consumer preferences are concerned, a "U.S. Nano would also need to be nicer inside to be attractive to buyers," Tata representatives told Autoblog Green. Reps from the blog drove the car around Judson College in Alabama and concluded that Tata will need to significantly improve the comfort level in the car. Students all asked where the iPod connector was and why there weren't any cupholders. Those sorts of features would be a part of the program if the car actually gets the official green light. Thankfully, Tata Motors designers have time to iron out these details, because any potential U.S. launch is likely to be years away.[71]

Optimists suggest that there is a big segment of American consumers for whom Nano will be a "just good enough" car since they do not need any fancy features. For example, Volkswagen built millions of Beetles for people who wanted a car for a simple reason—to avoid walking—and this car became very successful on the market since it resonated with the needs of a large consumer segment that was looking for this type of car. As inexpensive as Nano would be when entering the U.S. market, it might challenge not only new car models, but also the used car markets, since the American consumer would have the ability to buy a new Nano model for the price of a used car. This purchase alternative may be another benefit attracting the economy-driven consumers in the U.S., especially in times of prolonged economic crisis and rising gasoline prices.[72]

After making a strong debut, in late 2010 Tata announced somewhat disappointing sales figures for the Nano. In November 2010, just 509 Nanos were sold, despite brisk sales for more expensive cars. Mercedes sells more than 500 cars a month in India. After selling nearly 10,000 cars a month through the summer and early fall of 2010, sales dropped off when stories circulated that some Nanos had caught fire and other tales were related of poor service and performance.[73] In an effort to counteract the disappointing sales, Tata announced it was launching distribution in six new provinces where the Nano had not yet been available. Tata also unveiled a new finance scheme with 26 local banks with interest rates

Source: © Anugraph Adams.

from between 8 percent and 20 percent.[74] It is yet too early to tell if these setbacks will halt the Nano's penetration in India and around the world, or whether they are simply the natural growing pains of a new approach to passenger vehicles that will continue to permeate global markets for decades to come.

Questions for Review

1. What inspired Tata Motors to build the Nano? Why was there a need for an inexpensive car in India?

2. What innovative steps did Tata undertake to design the Nano in a way that would meet the $2,500 price tag? Do you think that the low price automatically means poor quality? How did Tata Motors address the quality issue while developing its budget car?

3. What caused delay in Nano's launch? What important features of the Indian economic environment were the key factors that caused the problem? What does this story teach about risks of doing business in India?

4. Would you agree that introduction of the Nano to the world auto market will be setting new trends in the auto industry, and possibly reshaping the industry? What did Tata Motors teach other automakers in terms of leadership and innovation?

5. Do you agree that there is a future for low budget cars like Nano in other markets besides India? Do you think Tata Motors is going in the right direction by trying to develop its low cost Nano models adapted to European and U.S. markets? How would you evaluate a likelihood of success of the Nano on the U.S. market? What should Tata Motors do to win American consumers?

The Ascendance of AirAsia: Building a Successful Budget Airline in Asia

Introduction

In September 2001, Tony Fernandes left his job as vice president and head of Warner Music's Southeast Asian operations, one of the most visible and prominent positions in Asia's music industry. He reportedly cashed in his stock options, took out a mortgage on his house, and lined up investors to take control of a struggling Malaysian airline with two jets and US$37 million in debt. Three days later, terrorists destroyed the World Trade Center.[1]

Within two years, AirAsia had demonstrated that the low-fare model epitomized by Southwest and JetBlue in the United States, and by Ryanair and easyJet in Europe, had great potential in the Asian marketplace. AirAsia's success rapidly spawned numerous imitators and competitors. Despite its success to date and continued growth, could AirAsia maintain momentum and continue to expand across Asia and globally? Would the influx of new entrants result in a shakeout such as had occurred in North America and Europe, compromising AirAsia's future in this increasingly competitive market?[2]

Market Liberalization and the Rise of Low-Fare Airlines in the Asia-Pacific Region

Following late on the global trend, low-fare, budget airlines (LFAs) were rapidly established across Asia. Air Do began operating in Japan in 1998, followed by Skymark in 2000. Carriers modeled on leading American and European budget airlines also emerged in Thailand (PBAir and Air Andaman) and in Cambodia (Siem Reap Air). In late 2001, AirAsia was relaunched in Malaysia as a no-frills operation. In the Philippines, Cebu Pacific Airways, also expressly modeled on Southwest, focused on cost containment by selling online and operating out of secondary airports. India's first budget airline, Air Deccan (now Kingfisher Red), was launched in late August 2003. China entered the game in 2005 with the creation of Spring Airlines, based in Shanghai.

Budget airlines were making inroads into most Asian markets, but the long-term survival of these carriers depended on their ability to compete with Asia's traditional, full-service airlines. The prevailing sentiment among some of the Asian majors, expressed by the Asia Pacific Airlines Association in early 2003, was that "no-frill fliers are not a threat to Asian airlines." This view was based in part on the perception that many established Asian airlines were highly cost competitive relative to their global peers. It also illustrates a perception that Asian air passengers valued high service more than low price.

As early as the late 1990s, most observers questioned whether Asia would ever emerge as a viable market for no-frills budget carriers similar to the United States' Southwest and Europe's Ryanair and easyJet. But the environment had since changed dramatically. According to Peter Harbison of the Centre for Asia Pacific Aviation, a consultancy in Sydney, Australia, "the key ingredient is liberalization."[3]

Air transport liberalization in the Asia-Pacific region began in the 1990s when Australia deregulated its domestic market. Virgin Blue was one of the few carriers that survived this initial battle with incumbents, and it succeeded in establishing its position in the market. New Zealand was one of the first countries to privatize its national flag carrier and embrace airline liberalization. Japan and India subsequently pursued air transport deregulation in order to stimulate competition. Elsewhere in Asia, several countries publicly embraced liberalization in the form of reciprocal access agreements: Singapore, Malaysia, Taiwan, South Korea, Brunei, and Pakistan all negotiated open-skies air service agreements with the United States. In Taiwan and South Korea, liberalization measures in the late 1980s and early 1990s spawned the birth of carriers that, by the turn of the century, had all become major players in their countries' air service sectors, both domestic and international. In Thailand, the domestic market underwent deregulation, and new private players were looking to expand. Indonesia witnessed the emergence of a large number of new entrants, following government moves to allow more competition.

In India, Pakistan, Bangladesh, Nepal, the Philippines, and Malaysia, domestic markets underwent varying forms of deregulation in the early-to-mid-1990s, and within a decade, despite some glitches, passengers

generally experienced much greater choice in domestic travel. The People's Republic of China also began opening up its air transport market and system. Foreign investors were permitted to enter joint ventures with, or buy stock of, domestic Chinese airlines. The first outside investment in China was George Soros's US$25 million acquisition of a 25 percent stake in Hainan Airlines in 1995. China Eastern and China Southern Airlines had also issued shares on international capital markets.[4] In Hong Kong, restrictions barring more than one locally based airline from operating on a particular route had been eased. These moves were long overdue in a region that had been resistant to change in the airline sector.

Association of Southeast Asian Nation (ASEAN) leaders announced plans to fully liberalize air travel by the end of 2008. However, there were doubts as to whether that deadline would mean much in practice, since countries were allowed to opt out and delay liberalization until 2015. Still, according to the Centre for Asia Pacific Aviation, many ASEAN states were prepared to open the skies between their capital cities in 2008;[5] and by 2010, significant liberalization had taken place, although with some countries lagging in their progress.

Low-Fare Airlines in Japan

Japan was the first Asian country to experience a real boom in both domestic and international travel in the 1960s. Subsequently, Japan retained the status of the largest air travel market among all Asia-Pacific countries as a result of the combination of its population size and a steadily growing disposable income level. Japanese air travel growth rates increased rapidly until the late 1980s, when the market became more mature and reached a plateau. The total Japanese travel market (both international and domestic) grew by only 6 percent from 1990 to 2000, which, even allowing for domestic economic slowdown, indicates that it was saturated with the product offered by the traditional, full-service carriers.[6] Japan undertook comprehensive deregulation and liberalization in a range of sectors throughout the 1990s, partly as a strategy to jump-start its stagnant economy. One sector that was partly liberalized was air transport. Future growth in air transport could come from the introduction of the new business model represented by low-cost, low-fare carriers. Although the total supply of seats provided by the budget airlines in the Japanese domestic market was still very small when compared to Japan Airlines (JAL)[7] and All Nippon Airways (ANA), the two large traditional carriers, the potential for growth was significant as long as new entrants could successfully compete both with the full-service majors and with intermodal competition from high-speed rail.

Skymark Airlines, one of Japan's first budget carriers, pursued a business model similar to JetBlue and easyJet's differentiated low-fare airline approach rather than the traditional Southwest or Ryanair no-frills, price leadership model. Skymark was established in 1996 and commenced operations in 1998. By 2007, it was flying between five domestic points in Japan—Haneda (Tokyo), Sapporo, Kobe, Fukuoka, and Naha on Okinawa—and operating an international charter service to Seoul. It had a fleet of nine aircraft, six Boeing 767s, and three Boeing 737s. The service was basic although all aircraft were equipped with a satellite TV entertainment system. Skymark's onboard product was further differentiated through offering a small number of first-class seats on some routes, e.g., 12 seats out of 309 on its Fukuoka route. Such additional features put Skymark closer to a hybrid budget airline model. An advanced entertainment package drew parallels with the JetBlue onboard TV model, while the availability of business-class seats placed Skymark in the same category as AirTran and Spirit in the United States.[8] Despite challenges, by 2010 Skymark had become Japan's third largest carrier in terms of passenger numbers and consistently outperformed its larger, full-service rivals in terms of cost, load factor, and price. Skymark's share value quadrupled in the 2009–2010 period and it was predicted to turn a profit in 2010, despite the adverse economic conditions. JAL's bankruptcy and consequent restructuring (including cutting many domestic routes) provided further growth opportunities for Skymark over the coming years.

Low-Fare Airlines in Malaysia

The emergence of the budget model in Malaysia resulted from market deregulation and the Malaysian government's desire to release Malaysia Airlines (MAS) from its obligation to serve perpetually money-losing domestic routes. Malaysia's geographic position and land structure provided natural conditions that encouraged air travel, but only 6 percent of the adult population traveled by air in 2001.[9] This low figure indicated an underdeveloped aviation market that could be grown significantly through the introduction of low fares on domestic routes. The policy of highly regulated domestic fares had been long maintained by the Malaysian government.[10] Such a policy created many headaches for the management of MAS, which had "reportedly been losing up to US$79 million annually" on its domestic routes.[11] The initial success of AirAsia may well have validated the Malaysian government's role in encouraging a budget airline to enter the domestic market. However, the government-controlled MAS did show initial concern about that same success. In fall 2002, MAS introduced

discounted fares on limited seats on domestic routes. Meanwhile, after its initial failure, a revamped AirAsia was transformed from a money-losing full-service airline into a low-cost, low-fare airline when a new group of investors, Tune Air Sdn Bhd, bought the shares and half the share of liabilities in the original airline in September 2001.[12]

How did Malaysians react to the introduction of this new business model? The anecdotal evidence points out that they were as eager to embrace it as residents of the United States, United Kingdom, Australia, Canada, Ireland, and elsewhere were when they were first given an opportunity to travel for a fraction of historical fares.[13] Conor McCarthy, AirAsia's co-founder and a former director of operations for Ryanair, had specifically noted that the management of AirAsia was encouraged by the similarities between the consumer market in Malaysia and in Ireland, the United Kingdom, and Germany when Ryanair first entered those markets.[14] One traveler offered the following comment on an online discussion site after traveling on AirAsia in March 2003 from Kuala Lumpur to Penang:

> It is good to see the no-frills model finally making headway in the Asia-Pacific region. No food, total scrum for the plane at the boarding announcement, crammed seats . . . but for the equivalent of around US$15, you can't complain. . . . Let's hope that the governments around the region put consumer interests ahead of protecting state-owned airlines.[15]

But 2006 data[16] comparing the types of aircraft in use in major world regions showed that on average, Asian airlines had fleets comprising 71 percent wide-body aircraft (such as the Boeing 747 or the Airbus 340) and only 29 percent narrow-body (such as the Boeing 737 or the Airbus 320). This compared with North America and Europe, where the average airline fleet was 23 percent wide-body and 77 percent narrow-body. This underscored the relative underdevelopment of the Asian market, where narrow-body fleets, typically used for shorter haul intraregional service, were not widely used. Most of the air passenger market remained long haul, often intercontinental and usually full service in nature.

The emergence of Malaysian-based AirAsia resembled the story of Ryanair, the Irish low-cost carrier that has dramatically altered the passenger air transport landscape in Europe since the mid-1990s. Both carriers underwent a remarkable transformation from money-losing regional operators into profitable low-cost, low-fare airlines. AirAsia was initially launched in 1996 as a full-service regional airline offering slightly cheaper fares than its main competitor, Malaysia Airlines.[17] This business model failed because AirAsia could neither sufficiently stimulate the market nor attract enough passengers away from Malaysia Airlines to establish its own market niche.

Fernandes's Entrepreneurial Venture

Tony Fernandes had a history of going his own way. Shipped off to boarding school in Britain to become a doctor like his father, Fernandes rebelled, earning an accounting degree and landing a job with the Virgin Group instead. Eventually he left Virgin for Warner Music, which sent him back to Malaysia in 1992. In 1997, he became vice president for the company's Southeast Asian operations. By 2001, however, he had tired of the politics at what had become AOL Time Warner and decided to start his own airline. This came as no surprise to those who knew him. Unlike many kids, who aspired to become airline pilots, from an early age Fernandes had wanted to own his own airline.[18]

On a trip to Europe, he met Conor McCarthy, Ryanair's former director of group operations.[19] Fernandes had envisioned a low-cost airline competing on long-haul routes. McCarthy encouraged him to focus closer to home. In late 2001, AirAsia was up for sale. Founded in 1996 as Malaysia's second airline, AirAsia had been beset by problems from the beginning and failed to turn a profit. Fernandes enlisted leading low-cost airline experts to restructure AirAsia's business model, and he persuaded McCarthy to join the executive team and become one of the investors.[20]

The investors announced an agreement on September 8, 2001, to buy AirAsia for a symbolic one ringgit (26 cents) and to assume 50 percent of net liabilities, or around 40 million ringgit.[21] Paradoxically, the September 11 attacks resulted in lower costs for purchasing and leasing used airplanes. The new AirAsia was relaunched in January 2002 with three Boeing 737 aircraft as a low-fare, low-cost domestic airline. Its value proposition was described as being based on "a Ryanair operational strategy, a Southwest people strategy, and an easyJet branding strategy."[22] Fulfilling his boyhood dream, Fernandes was running an airline company in which he had a personal stake of around 35 percent.

AirAsia co-founder Conor McCarthy noted that one thing which strikes him when telling the story of the AirAsia journey, is how much timing and luck had huge parts to play. AirAsia got its first batch of aircraft when the market was down, then locked in some purchases and long-term leases when the market was still very weak in 2003. In 2004 and 2005, the market was picking up and management concluded only short-term contracts for the necessary aircraft. Management pursued a similar strategy with regard to maintenance contracts and fuel hedging. The one thing the company managed to keep consistent was its no-frills model and always offering value in low

fares. In distribution, it kept the largest majority of bookings via the Web but in coming to terms with local markets where payment type in particular was an issue, AirAsia did open up some billing and settlement plan (BSP) and computer reservation system (CRS) channels[23]—under its own control—as to stick rigidly to the direct sales-only channel would have been value-destroying. Also, as McCarthy noted, "Competition was complacent when we took over AirAsia in late 2001 and this enabled us to get a toehold, followed by a foothold, followed by a large niche followed by market leadership in our key Malaysian domestic market."[24]

The Malaysian government recognized early on that AirAsia could help the economy overall and specifically assisted in infrastructure development (providing huge freedom of movement advantages with none of the associated subsidies/tax expenditure that is required of road and rail) and tourism growth (amplifying the number of visitors per aircraft through the high seat density, short flights, and superior utilization). It also could play a role in distributing wealth from the main cities to the outlying areas and in connecting a previously fragmented East (Borneo)-West (Peninsular) Malaysia through a phenomenal increase in flights, seats, and destinations at much lower fares. Government support for a more competitive domestic market paid off handsomely and also

reduced the need to subsidize Malaysian Airlines (MAS) domestic services. This was a major change and, as McCarthy argued, one for which the policy and decision makers in the Malaysian government deserved genuine credit.

AirAsia's Strategy and Operations

AirAsia focused on ensuring a very low cost structure as a cornerstone of its business strategy. It was able to achieve a cost per available-seat-kilometer (ASK) early in its development of 2.5 cents, half that of Malaysia Airlines and Ryanair and a third that of easyJet.[25] UBS research indicated that AirAsia was the lowest cost airline in the world by 2007 (see Exhibit 1). The company continued to retain that position, as it consistently pushed down cost year on year (Exhibit 2). Similar to budget airlines elsewhere in the world, AirAsia's revenue model was driven by the visiting friends and relatives (VFR) market and small business travelers.

Fernandes acknowledged that the timing of the AirAsia start-up in the aftermath of the tragic events of September 11, 2001, helped ensure the lowest possible cost structure, with both leasing and operating aircraft costs sharply declining year over year. By 2007, AirAsia was handling 51,000 passengers a day with a fleet of

Exhibit 1   **The Operating Costs of Global Low-Cost Carriers**
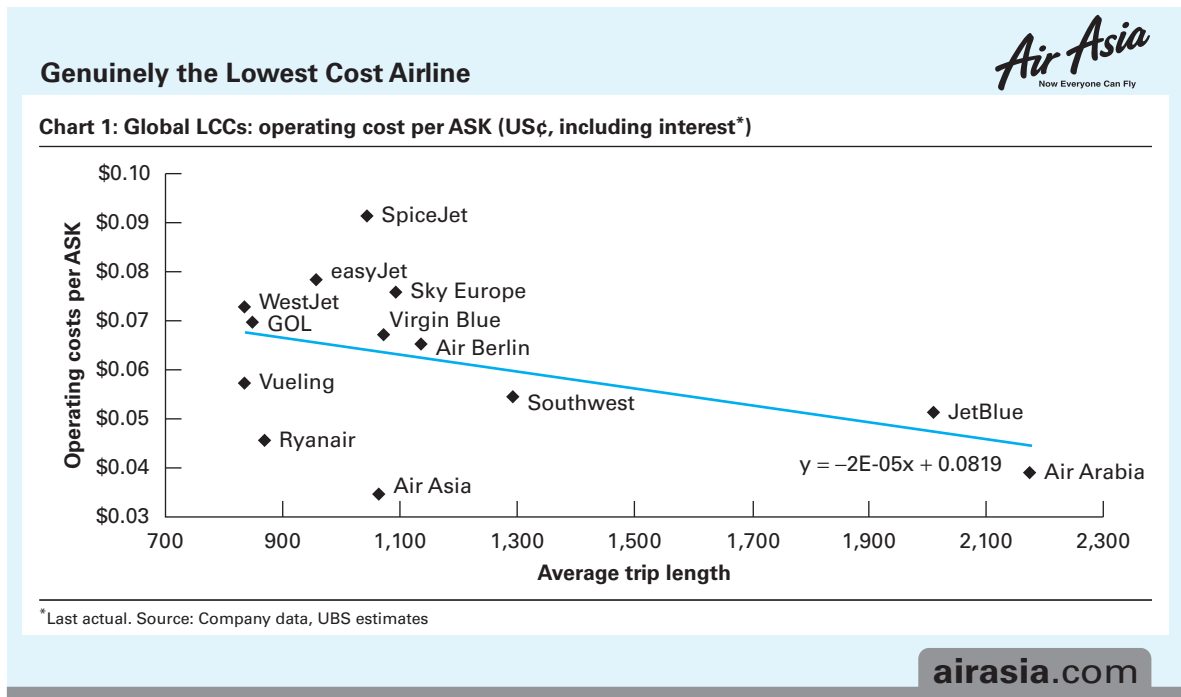
LCC = Low-Cost Carrier (we use the terms "low-fare airline" or "budget airline" throughout this case)
ASK = Average-seat-kilometer

Source: Company files.

Exhibit 2   **Cost/ASK—AirAsia's Year on Year Comparison**

Cost Breakdown (US cents/ASK)	Jan-Mar 2009	Jan-Mar 2008	Δ (%)	Reason
Staff	0.34	0.36	−6%	Productivity gains
Fuel and Oil	1.04	1.93	−46%	Lower jet fuel price
User & Station Charges	0.26	0.20	29%	More international routes bias
Maintenance and Overhaul	0.17	0.16	3%	Redelivery of Boeing 737-300 cost
Cost of Aircraft	(0.25)	(0.08)	212%	Sub-lease income from associates
Depreciation & Amortisation	0.52	0.48	9%	More number of owned aircraft
Sales and Marketing	0.11	0.14	−19%	Economies of scale
Others	0.20	0.11	84%	Higher overheads
Cost/ASK	2.38	3.30	−28%	
Cost/ASK-excluding fuel	1.35	1.37	−2%	
Finance Cost	0.51	0.34	49%	More aircraft being financed
Cost/ASK inc. finance cost	2.90	3.64	−20%	

Source: Company files.

54 planes, offering fares as low as 50 Malaysia ringgit (less than US$15).[26] The revenue formula of AirAsia mostly followed the traditional low-fare approach; only three different fare types were offered.[27] AirAsia's focus on Internet bookings and ticketless travel allowed it to emphasize simplicity for the customer while securing low distribution costs. With the average fare 40 to 60 per cent lower than the fares of its full-service competitors, AirAsia was able to achieve strong market stimulation in the domestic Malaysian air market.[28] For example, when AirAsia started out, the lowest fare it offered for the trip from Kuala Lumpur to Penang started at 39 ringgit. The same trip by bus cost 40 ringgit and increased to about 80 ringgit if traveling by car. The introduction of such super-competitive fares began to produce the same market growth effect that was achieved by the entry of Ryanair (in its low-fare form) into the U.K.-Ireland air travel market—travelers' switching from sea, train, and bus to air transportation. In the case of Malaysia, consumers increasingly switched from bus to air travel. Starting with two planes bought from a Malaysian conglomerate in late 2001, the airline had expanded to 54 aircraft by 2007 and more than 70 by 2010, with plans to grow to more than 180 aircraft by 2014. This was impressive growth, but it also raised concerns because other budget airlines had faced their most serious challenges when they attempted to expand too fast.[29]

AirAsia expanded quickly. The airline handled 1.5 million passengers in 2003 and this number almost doubled the following year and rose to 6.3 million in 2005. By June 2007, this number had climbed to almost 14 million passengers. In early 2010, despite a fall in global passenger demand, AirAsia had grown its passenger numbers by a further 24 percent, taking the group total (combining the Malaysian, Thai, and Indonesian operations) to 22.7 million. The company quickly repaid its inherited debt and was profitable from the outset. Its profit margins (before interest, depreciation, amortization, and aircraft leasing costs) have been as high as 35 percent, among the highest in the world, according to Michael McGhee, Credit Suisse First Boston's airline analyst. AirAsia announced net profits of RM549 million (US$162 million) for the full year 2009, despite what was described by many as the worst year in aviation history.

Reaction to AirAsia's Success

The Malaysian government was supportive of AirAsia so long as it was assuming previously money-losing domestic routes and serving as a benchmark for the restructuring of Malaysia Airlines. In August 2006, AirAsia took over 96 of Malaysia Airlines' 118 domestic routes, only four of which had previously been profitable. AirAsia's plans to enter the traditionally profitable intraregional markets of Thailand and other neighboring countries met with less enthusiasm from the Malaysian government. The Malaysian regulatory authorities faced the knotty problem of

accommodating the growth plans of a new budget airline at the cost of reducing the market value of government-owned Malaysia Airlines.

Given the initial uncertainty about its ability to fly outside of Malaysia, AirAsia sought creative ways to expand its market coverage by targeting cross-border markets. AirAsia entered into a number of joint ventures, including Thai AirAsia, Indonesia AirAsia, and AirAsia X.[30] In its cross-border joint ventures with Indonesia and Thailand, AirAsia urged harmonization of national regulations in the areas of pilot hours and maintenance oversight. AirAsia also won greater favor with the Malaysian government, which endorsed AirAsia X (the group's low-cost, long-haul airline) and built the region's first low-cost terminal at Kuala Lumpur International Airport in March 2006.[31] As with the Thai and Indonesian operations, AirAsia X was a legally separate company in which AirAsia held just a 16 percent stake. However, a consortium that included Tony Fernandes owned 48 percent. Virgin Group also had a 16 percent stake in the long-haul budget carrier.

The Malaysian towns serviced by AirAsia attracted residents of neighboring countries to try AirAsia when they traveled to Kuala Lumpur, as it often meant saving half the airfare by taking a simple car trip across the border. This elicited a response from some of AirAsia's competitors, most notably Singapore Airlines, Asia's largest carrier by market capitalization. Singapore Airlines announced a low-fare subsidiary, and a former Singapore Airlines deputy chairman, Lim Chin Beng, registered "Valuair" in June 2003, intending it to operate as Singapore's third airline. Thai Airways International also launched its own low-fare spin-off, Nok Air, in 2004, which it co-owned as part of a consortium.[32] The Sri Lankan government launched a fully state-owned budget carrier, Mihin Lanka, in 2007. In sum, AirAsia was causing competitive ripples that were likely to grow in scale and scope.

## Going International: The Response of Incumbent Carriers

In January 2004, AirAsia started its first international service, from Kuala Lumpur to the Thai holiday island of Phuket. In February, it began flying from Johor Bahru, across the border from Singapore. In 2005, it began flying to Indonesia, a country with 235 million potential passengers. Expansion to India and China was also in the cards, two markets with a combined population of 2.5 billion. By early 2008, AirAsia X was flying to Hangzhou (Shanghai) and by late 2008 AirAsia was connecting Malaysia to Kolkata, Trichy, Kochi, and Trivandrum in India. This proved only the tip of the iceberg for both markets, as AirAsia and AirAsia X continued a relentless growth strategy vis-à-vis China and India.

At the same time, incumbents were striking back. Of the 50 or so budget airlines serving East, South, and Southeast Asia, many came from spin-offs of traditional airlines. For example, Thai Airways announced an international carrier, Nok Air, and Singapore Airlines established its own budget airline, Tiger Airways, together with the founders of Ryanair. In 2004, Australia's Qantas announced that it was starting a new Singapore-based low-fare airline, subsequently called Jetstar. Qantas invested about 50 million Singapore dollars (US$30 million) for a 49 percent stake in the new airline; Temasek Holdings, the powerful investment arm of the Singapore government, owned 19 percent, and two local businessmen held the remainder. Although Temasek owned 57 percent of Singapore Airlines, Temasek officials denied that its ownership in the two carriers represented a conflict of interest. "We think this new player will increase the pie," said Rachel Lin, a spokeswoman for Temasek. "Our interest is strictly for financial returns; we see both of them as potentially attractive investments." Moreover, as the government moved to defend its role as a hub for air travel by building an airport terminal designed to accommodate budget airlines, Singapore's founding prime minister and elder statesman, Lee Kuan Yew, warned Singapore Airlines that the government intended to protect Changi Airport's competitiveness, even at the flag carrier's expense.[33]

Some believed many of the incumbents in Asia—like those in the United States—faced inherent disadvantages in their ability to compete on cost and price because they did not have the cost discipline or the entrepreneurial culture of budget start-ups. Thai Airways hired an advertising executive to run Nok, apparently with the intention of mimicking Fernandes, but its choice appeared to lack Fernandes's marketing and operational ability. Eric Kohn, who was number two at Deutsche BA, initially organized as a German-based low-price offshoot of British Airways, argued that established carriers are not set up to succeed in the low-cost space: "People at big airlines don't have accountability or a focus on costs. It is a lot easier to start an airline from scratch than to take a legacy airline and make a profit."

"We feel pretty vindicated," Fernandes said in a telephone interview from his office at Kuala Lumpur International Airport. "A lot of people laughed at us at first."[34] Fernandes disputed analysts' warnings that AirAsia was likely to run into more difficulties as it went more international. "I don't see why it makes any difference," he said. As for Asia's relative lack of bilateral agreements to allow new carriers to ferry passengers from country to country, Fernandes argued that competition for tourist revenue is pushing more countries to open up. Exhibit 3 shows AirAsia's route network (including long-haul AirAsia X) as of 2009, comprising 42 international city

Exhibit 3   **AirAsia and AirAsia X Route Network (2009)**
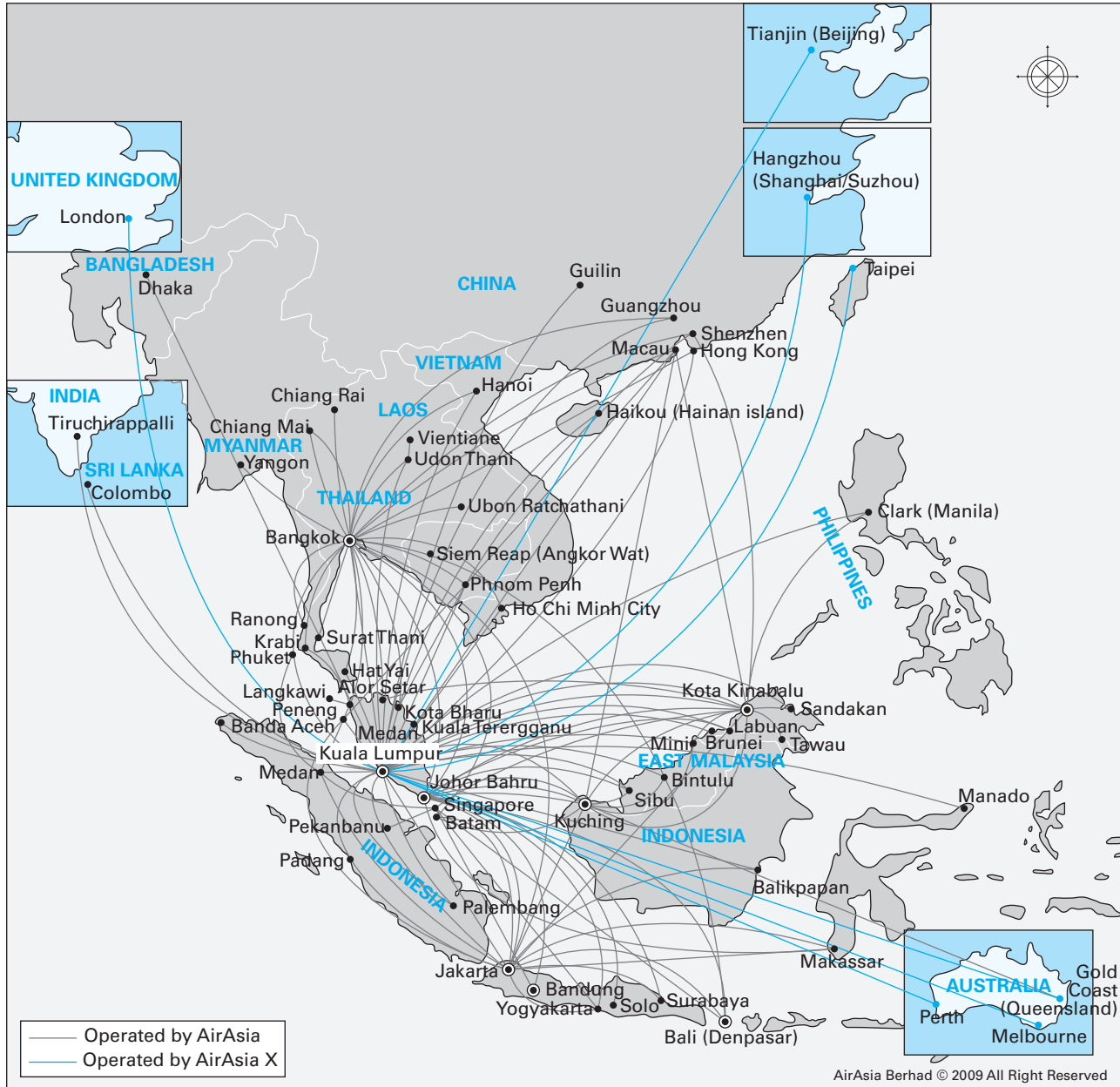
Source: Company files.

Moving Forward at AirAsia: Regional and Global Expansion

As more and more countries opened their skies, AirAsia was quick to start cross-border joint ventures, most notably in Thailand and Indonesia. AirAsia prompted increased passenger travel with its 2007–2008 "To Malaysia with Love" campaign. The campaign celebrated 50 years of nationhood for Malaysia, and offered travelers affordable fares "starting from MYR0.50 (about 15 cents), available for all destinations to/from its Malaysian hubs."[35] Cheaper airfares were also made possible by the low-cost carrier terminal at Kuala Lumpur Airport, with a throughput of about 10 million passengers annually.

International route expansion continued unabated. This combined shorter routes (typically up to four hours' flying time) undertaken by AirAsia (Malaysia), Thai

AirAsia, or Indonesia AirAsia, with longer routes operated by AirAsia X. By early 2010, AirAsia X was flying long haul from Malaysia to three cities in China and AirAsia was flying shorter routes to a further six cities (including Hong Kong and Macau) from both Malaysia and Thailand. CEO Fernandes declared 2010 his "India year," with plans to gradually link New Delhi, Chennai, Bangalore, Hyderabad, and Mumbai to Kuala Lumpur and Penang, and from there to more than 130 routes.[36] In addition, AirAsia X offered daily services to three destinations in Australia, as well as to Taiwan and London. Plans for further long-haul expansion included more Australian routes, Paris, and the United States. AirAsia's sponsorship of sports teams such as Manchester United helped build up brand recognition in many markets. In the United States, the airline signed a sponsorship deal with the Oakland Raiders football team in early 2009, raising the group's profile in northern California; AirAsia was reportedly exploring Oakland as an alternative airport to San Francisco and investigating additional airports in the Los Angeles and New York City areas. A prerequisite to any of these forays was that the airports must support the needs of budget airlines, including quick turnaround and taxi times.[37] An airport such as Oakland was also attractive because of its large base for Southwest Airlines, allowing passengers to connect onwards to hundreds of domestic U.S. routes at a low price. AirAsia X would serve future U.S. west coast routes from Kuala Lumpur via Taipei, Seoul, or Honolulu and any east coast routes would route via London Stansted. Another 16 Airbus aircraft were expected during 2010, mostly A320s to serve short-haul routes but including several A330s to support projected growth for long-haul operator AirAsia X.[38] The A330 was ideal for long-haul flights between Southeast Asia and Australia or the Middle East. However, to deliver on nonstop service to Europe and a one-stop service to the United States, AirAsia X would need to rely on its small A340 fleet, gradually replacing these and growing a sizeable fleet of the new A350 aircraft. This might take time, as the carrier was currently not scheduled to receive its first A350 until 2016.

In addition to growing its passenger travel, AirAsia also expanded into cargo transportation. In May 2007, the airline made an agreement with the cargo management company Leisure Cargo. One of AirAsia's regional directors commented on the new partnership, saying, "Cargo plays an integral part of our ancillary income and we foresee cargo to be one of the key drivers with significant contribution towards the company's bottom line."[39] This agreement served 18 destinations, made possible by the airline's Airbus 320s carrying both passengers and cargo.

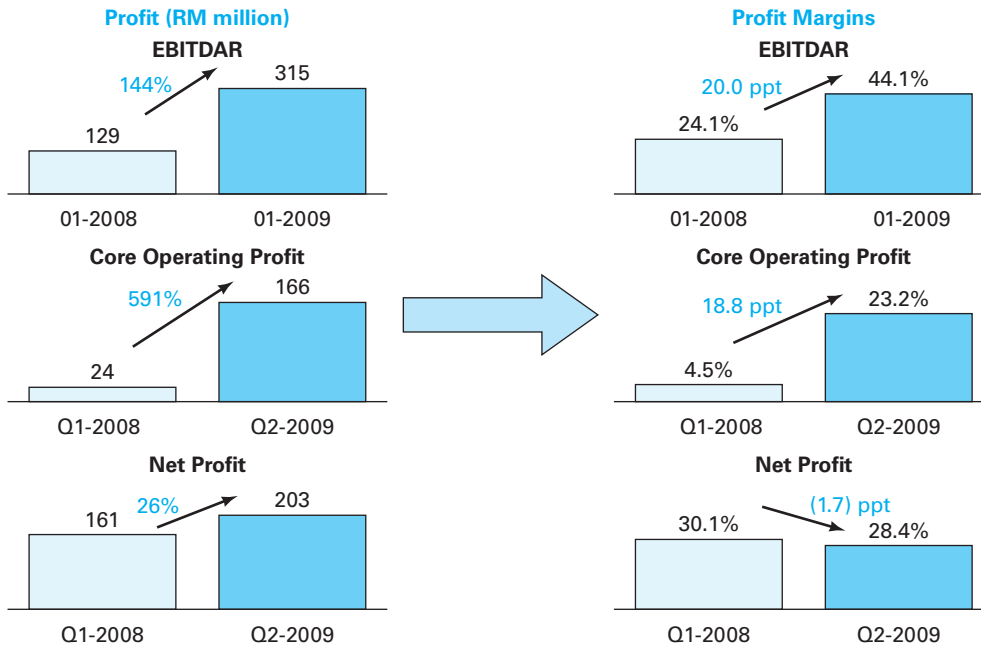Another landmark development for AirAsia was becoming a publicly traded company. After deferring its decision on a public listing early in 2004 to focus on domestic and regional expansion, AirAsia finally went public on November 22 of that year. When it did, its initial public offering (IPO) was worth US$226 million.[40] It was one of the largest public offerings in Malaysia, and brought the company RM717.4 million (US$188.8 million) for its future expansion.[41] The capital raised enabled AirAsia's management team to diversify its fleet, by placing orders for new Airbus 320s. This did two things: it locked in the company's hardware costs and availability through the very strong surge in orders that followed; and this in turn helped the company's cost competitiveness and capacity/network build out.

AirAsia posted impressive financial results in post-IPO: Revenue grew 52 percent from 2006 to 2007, reaching 1,603 million ringgits in 2007, while pretax profit grew 223 percent from 86 to 278 million ringgits and net profit grew 147 percent from 202 to 498 million ringgits. Despite some challenges and a drop in profits between 2007 and 2008, profit continued to grow the following year with core operating profit rising 591 percent between 2008 and 2009 and net profit increasing 26 percent in the same period (see Exhibit 4).

The Budget Airline Future in Asia

In 2010, views on whether low-fare airlines would continue to flourish in Asia varied. Three factors—regulation, population, and demographics—drove this calculus. Although the target consumer base for AirAsia was enormous—more than 500 million people lived within three hours of AirAsia's hubs in Kuala Lumpur and Bangkok, more than Western Europe's entire population—the failure of Asia's regulatory environment to keep pace and the uncertain demand for low-fare services created uncertainty.

Those who sold airplanes, airports, or advice tended to be of the opinion that low-fare carriers would redraw Asia's socioeconomic map, offering affordable international travel to millions and thereby fostering the integration of a region divided by water, politics, and poor infrastructure. Analysts who saw a large and growing market predicted that budget airlines would tap pent-up demand among less affluent Asians, who typically travelled by bus and hardly expected attentive service. Since the global economy had peaked in the second half of 2006 and even during the recession of 2008–2009, Asian carriers had seen increased success. "We're seeing that people in Asia travel as soon as they have some extra money in their pocket," said Don Birth, president and chief executive officer of Abacus, a distribution services provider.[42] Although average incomes were lower in Asia than in Europe, Timothy Ross, an analyst for UBS, said that the region's lower average incomes should boost rather than constrain demand for cheap fares.

Exhibit 4   **AirAsia's Profit and Expanding Margins**

Profit (RM million)

EBITDAR

- 01-2008: 129
- 01-2009: 315
- 144%

Core Operating Profit

- Q1-2008: 24
- Q2-2009: 166
- 591%

Net Profit

- Q1-2008: 161
- Q2-2009: 203
- 26%

Profit Margins

EBITDAR

- 01-2008: 24.1%
- 01-2009: 44.1%
- 20.0 ppt

Core Operating Profit

- Q1-2008: 4.5%
- Q2-2009: 23.2%
- 18.8 ppt

Net Profit

- Q1-2008: 30.1%
- Q2-2009: 28.4%
- (1.7) ppt

RM = Ringgit (Malaysia's unit of currency; on June 1, 2008, RM1 was equal to US$.30)
EBITDAR = Earnings Before Interest, Taxes, Depreciation, Amortization, and Restructuring or Rent Costs
EBIT = Earnings Before Interest, Taxes
Source: Company files.

Other analysts argued that there had traditionally been too few bilateral agreements that allowed new low-fare carriers to fly between countries and too few of the satellite airports that the airlines needed to keep costs low. In that vein, budget airlines such as AirAsia were hoping for increased cross-border travel in the wake of the December 2008 ASEAN open skies agreement. The agreement allowed carriers based in the region to make unlimited flights between all 10 ASEAN member states. Although it would be 2015 before the agreement was fully implemented, it was a positive step forward. For instance, in January 2010, the Indonesian Transportation Ministry announced it was gearing up for the country's full participation in the ASEAN air transport liberalization plan and intended to include five of Indonesia's 27 international airports in the implementation.[43] Although this was only a small proportion, it was a symbolic start. "Liberalization tends to be infectious, and the germs of change are in the air," concluded Peter Harbison, the executive chairman of the Centre for Asia Pacific Aviation.[44]

The pattern in other regions suggested that once rules start to relax, growth follows. In the United States, the upsurge of budget carriers saw passenger numbers rise nearly 50 percent in the five years following deregulation, compared with 4 percent for traditional airlines. In 2010,

low-fare carriers now had more than a third of the market. In Australia, Virgin Blue took only three years to win a 30 percent market share.[45]

The growth of low-fare carriers had great potential to spill over into the broader tourist and business travel economy: Having more air passengers generates higher demand for hotel rooms. This connection had been seen in Australia, where Virgin Blue took nearly one-third of the domestic market from Qantas Airways (which responded in part by setting up Jetstar). This resulted in a sharp upturn in demand for economy hotels, such as Accor. "In many cases, it's entirely new business that wouldn't have happened if it weren't for cheap air tickets," commented Peter Hook, general manager for communications at Accor Asia Pacific.[46] In addition, low-fare carriers might offer options for Asian travelers to mix business with pleasure, as many North American and European business travelers did, by extending trips or bringing family members to accompany them. Ultimately, Fernandes pointed out, budget airlines in Asia had an advantage in that Asia had almost no interregional highways and no high-speed international rail. "There's a lot of sea in between," he said. "Air travel is the only way to develop interconnectivity in Asia."

But competition was growing. In addition to the many upstart carriers and joint ventures with majors, some

significant players from outside the region were also making rumbles. After his success with Virgin Blue, Richard Branson expressed interest in investing in a low-fare operation specifically in Asia. His stake in AirAsia X ensured he was an ally rather than an adversary of Tony Fernandes. David Bonderman, an airline financier who helped found Ireland's Ryanair, took a stake in Tiger Airways, Singapore Airlines' budget venture. So far, Hong Kong–based Cathay Pacific Airways was one of the few regional heavyweights to say it was not likely to enter the fray.[47]

With all of the new competitors for low-fare air travel in the region, AirAsia needed to stay ahead. In order to do so, it was important to focus on profits, not just cost-cutting, in order to win investors, thereby increasing capital. According to the Centre for Asia Pacific Aviation, "With financial experts predicting that funding aircraft acquisitions with equity and affordable debt will be much more difficult in the near future, only those airlines that have exhibited an ability to wisely increase capacity will be able to grow their operations."[48]

External, industry-wide challenges—particularly the escalating cost of fuel—also posed a threat to AirAsia. As the lowest cost carrier in the world, the company suffered more from high fuel prices, as they were a higher percentage of total costs, than any other airline (assuming similar equipment and seat density). Surcharges and baggage fees covered some of this but the airline was conscious that if it loaded on the full charge, it might find no demand on some flights due to a high base price (e.g., minimum or zero fare plus taxes, fees, and surcharges). To offset this eventuality, AirAsia did a lot to improve operations and efficiency and also saw the benefits of the fuel efficient Airbus 320 help to maintain its low-fares brand position. But what were the business implications for AirAsia if oil prices remained above $100 a barrel for the foreseeable future?

To retain its cost advantage in the wake of the global recession, AirAsia entered into an alliance in January 2010 with Jetstar, the low-fare subsidiary of Australia's flag carrier, Qantas. This was the first time two leading budget airlines had collaborated in this fashion. The alliance allowed the companies to explore joint aircraft purchasing, passenger and ground handling services cooperation, and the transportation of each other's passengers in the event of a disruption.[49] Assuming the focus of the alliance was on cost sharing for services and aircraft procurement, it might prove effective. However, any alliance—but particularly with another airline—is always difficult to manage for budget airlines. A budget airline's success is predicated on a lean and highly adaptive structure together with an autonomous and often unpredictable strategy. Would the Jetstar alliance put this at risk?

More broadly, did AirAsia's expansion beyond its Southeast Asian focus threaten its long-term viability? Even if expansion to China, South Asia, and Oceania was consistent with its core capabilities, how did the AirAsia X initiative fit with this set of competencies?

AirAsia had played the game very well and had ambitious growth plans to keep ahead of the pack. Time would tell if Fernandes and his team could maintain the company's position as Asia's—or perhaps the globe's—most successful budget airline.

Questions for Review

1. What is the macro and industry environment in the Southeast Asian region for the entrance of new budget airlines? What opportunities and challenges are associated with that environment?

2. How might demand for low-fare service differ in the Asia-Pacific region from North America and Europe?

3. Compare AirAsia's generic strategy (cost leadership, differentiation, focus) with the strategies of other incumbent carriers and with Southwest and Ryanair. How is it similar to and different from the strategies of those carriers?

4. Did Fernandes weigh the range of political, economic, and operational uncertainties and risks when he took over AirAsia? What risks might he have overlooked?

5. How would you describe Fernandes's entrepreneurial strategy?

6. How should AirAsia respond to the challenges posed by (a) new low-fare carriers entering the Asian marketplace and (b) low-fare strategies pursued by incumbent carriers? How would you characterize the competitive dynamics in this market?

7. How do you think the Asian passenger air transport marketplace will shake out? What lessons can be drawn from the North American and European experience?

8. What is your assessment of AirAsia moving beyond its historic strength in Southeast Asia to Australia, China, India, and Europe?

Exercise

Anthony Fernandes and his team are preparing to enter a new Asian market through strategic alliance with an indigenous partner company and are presenting the case to investors and workers. Break into three groups representing the key stakeholders: AirAsia management, shareholders, and employees. The AirAsia management group should make the case for the alliance to support expansion, describe the impact of this expansion on future

earnings growth, and support this pitch with specific information about opportunities in the new Asian market. The groups representing workers and investors should ask questions and seek clarification about the validity of the expansion plans, the financial and operational implications, and the likely overall market and customer receptivity to the alliance.

(Daily flights are available to all destinations.)

Professors Thomas Lawton and Jonathan Doh wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.