

## AUTOMOTIVE

# Auto Quality and Auto Sales: Quality Pros Speak Out

Toyota Motor Corp. surpassed General Motors (GM) in sales during the first quarter of 2007, unseating the stalwart that has held the title for 70 years and becoming the first automaker outside the United States to hold the title. During the three-month period, Toyota sold 2.35 million vehicles; GM sold 2.26 million.

While the end-of-year numbers will be the true measure of which company is on top, Toyota's achievement might represent a changing tide.

Some ASQ members say they weren't surprised by the numbers.

"I was in senior management at GM in Canada during the first days of the Japanese entry into the North American market," says Maurice Lake, a member of ASQ's Automotive Division. "The director of quality always said, 'Look over your shoulders, managers, the Japanese are coming.'"

That's not to say Toyota is making better vehicles, Lake says.

"GM has a tremendous lineup of vehicles and their quality has improved immensely. Their fuel economy has also improved. However, they have a long way to go to get the message to the consumer."

Lake, who has consulted in ISO 9000 and TS 16949, says such standards have "made a huge difference in the quality of GM's products." But, he adds that while the quality of GM's products is better than ever, the company's service lags behind that of Toyota's.

"I think the quality efforts have to be extended to every part of the organization to truly make a difference in the long term. If GM is to turn it around, they must provide an excellent quality product that is fuel efficient and environmentally friendly and [they must provide quality] service."

Diane Kulisek, an independent quality consultant and ASQ senior member, disagrees. She says Toyota is selling more cars because it is building higher quality cars.

"I doubt the United States will ever catch up with Japan in automotive quality," Kulisek says.

According to J.D. Power and Associates, they're both right.

The well-known information firm came out with its 2007 Initial Quality Study in June, and results were mixed. Toyota took the top spots in four categories: midsize multi-activity vehicle (Toyota 4Runner), large multi-activity vehicle (Toyota Sequoia), midsize premium multi-activity vehicle (Lexus RX) and midsize pickup (Toyota Tacoma). GM also took three top spots: large vehicle (Pontiac Grand Prix), large pickup (Chevrolet Silverado Classic HD) and van (Chevrolet Express).

Overall, Japanese automakers took seven of the 19 top spots, U.S. automakers also took seven, European automakers took four, and South Korea's Kia took one.

J.D. Power also recognizes assembly plants that produced the fewest defects, and Japanese companies dominated in 2007. Ford Motor Co.'s Wixom assembly plant in Michigan received the Platinum award, averaging 35 defects per 100 units, but of the 10 awards given out, U.S. automakers took only two. Japanese automakers took five and European companies took three.

Also, 21 of the 38 auto dealers that J.D. Power deemed "Dealers of Excellence" in 2007 sell Japanese vehicles. Nine sell European vehicles, six sell U.S. vehicles, and two sell South Korean vehicles.

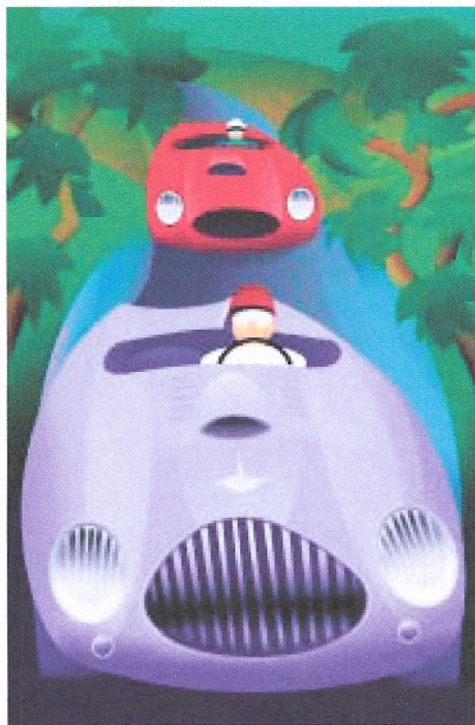
Overall quality ratings for 2007, available at [www.jdpower.com/autos/quality-ratings](http://www.jdpower.com/autos/quality-ratings), are all over the board, with no one country a clear leader.

### Level Field

GM sees this mix of numbers as a leveling of the quality playing field.

"Toyota is making excellent products, but so is GM," says Tom Wilkinson, director of news relations at GM. "There's going to be a parity" in quality among U.S. and Japanese manufacturers, he says.

Wilkinson says other manufacturers are taking lessons from Toyota's playbook, citing GM's global manufacturing system, a newer method in which GM uses identical parts in



many automobiles. This, he says, allows more efficient assembly, much like what Toyota has been doing for years.

While GM says its quality is increasing, Toyota admits that its rise to the top is affecting quality negatively. According to the *Wall Street Journal*, Toyota President Katsuaki Watanabe admitted last year that to meet demand, the company might have skipped some quality checks.

Toyota says it is slowing production to try to correct that.

So, with quality equal—or at least headed in that direction—what will determine which company sells the most cars for the rest of 2007 and beyond? One factor to consider is which company can make the most cars.

According to the *Harbour Report*, published annually by Harbour Consulting in Troy, MI, Toyota can still produce a car in less time than GM, although GM is catching up. The report, which examines labor productivity of six manufacturers, found that it took Toyota 29.93 labor hours to build components and assemble each vehicle in 2006. It took GM 32.36 hours from start to finish.

That's an improvement of better than 2% over 2005 for GM. Toyota's time was 1.8% longer than in 2005. This is mainly due to a large number of new models launched at Toyota's plants, including the new Camry and Tundra pickup truck, says Ron Harbour, author of the report.

That narrowing gap reflects a trend. For 2006, the difference between the fastest production (Toyota) and the slowest (Ford) was only 5.17 hours. It was 7.33 hours in 2005, and 9.1 hours in 2004. In 1998, it was 16.6.

GM is also closing the gap in assembly. After all the parts are built, GM takes 22.15 hours to assemble a car, compared to Toyota's 22.05 hours—that's a difference of only six minutes.

GM is also making strides in supplier relations. A recent article in the *Detroit News* cites an annual survey in which parts suppliers are asked to rank their overall relations with auto manufacturers on a scale of zero to 500. GM scored 174 for 2006, up from 131 in 2005. Still, GM has along way to go to catch Toyota, which took the top spot with an average score of 415.

The article goes on to quote analysts who say this gives Toyota an advantage, as suppliers tend to offer their best technology, highest quality parts and lower prices to their best customers. The price breaks allow Toyota and Honda to invest more money in R&D.

### What to Focus On

GM has closed in on Toyota in a number of areas, but what has to happen for the U.S. automaker to take back the lead in sales?

John Poris, a consultant and ASQ member, says, "Toyota is a learning organization, while the Big Three are not. Toyota is much leaner as well. It is a cultural thing more than anything. ▶

## Who's Who in Q

**Name:** Afaq Fayzee Ahmed

**Residence:** Dhahran, Saudi Arabia; permanent resident of the United States

**Education:** Master's degree in mechanical engineering, University of Southern California, Los Angeles

### First job in quality:

Corporate quality engineer at General Automotive, helping auto parts suppliers enhance quality systems

### Current job:

Engineering specialist for Saudi Aramco; develops, maintains and improves systems and procedures to enhance supplier quality and conducts facility surveys of potential critical equipment suppliers. He also participates as a mentor in a program to develop young engineers.

**ASQ activities:** Senior member; regional councilor, Healthcare Division; certified quality manager, engineer and auditor

**Other achievements:** RABQSA certified skill examiner and quality management system lead auditor

**Personal:** Married, one son, one daughter

**Favorite ways to relax:** Playing tennis, exercising, reading, listening to music and traveling

**Quality quote:** Efforts must be made at the corporate and national levels to overcome barriers in cultivating a quality culture in developing nations. There should be ongoing seminars, conferences, training courses and workshops to increase quality awareness. Graduate level courses should be offered in quality management and reliability. Top management should lead by promoting quality awareness and employee empowerment, and implementing recognition systems.



For the Big Three to catch up, the culture has to change significantly."

Whatever automaker you're behind, quality will no doubt contribute to its future success.

Poris says, "Quality professionals should be constantly pushing quality issues upstream, being as noisy as possible about it. This includes pushing sales and marketing to nail down customer requirements, pushing engineering to be more involved up front in development of specifications, and ensuring advanced product quality planning is actually used and reviewed by decision makers throughout the design process."

Wilkinson's advice? "Think globally. Think like a customer."

He says the key to taking back the lead in global sales will depend on GM's ability to fit in to an expanding global market.

Japan, the United States and Western Europe, are "mature markets," Wilkinson says. GM leads in the United States, Toyota leads in Japan, and it's unlikely any of that will change. However, he points to China, India and Latin America as open markets. It's up to the automakers to appeal to car buyers in those countries.

"It's a wide open market," Wilkinson says. "The next few years will be very interesting."

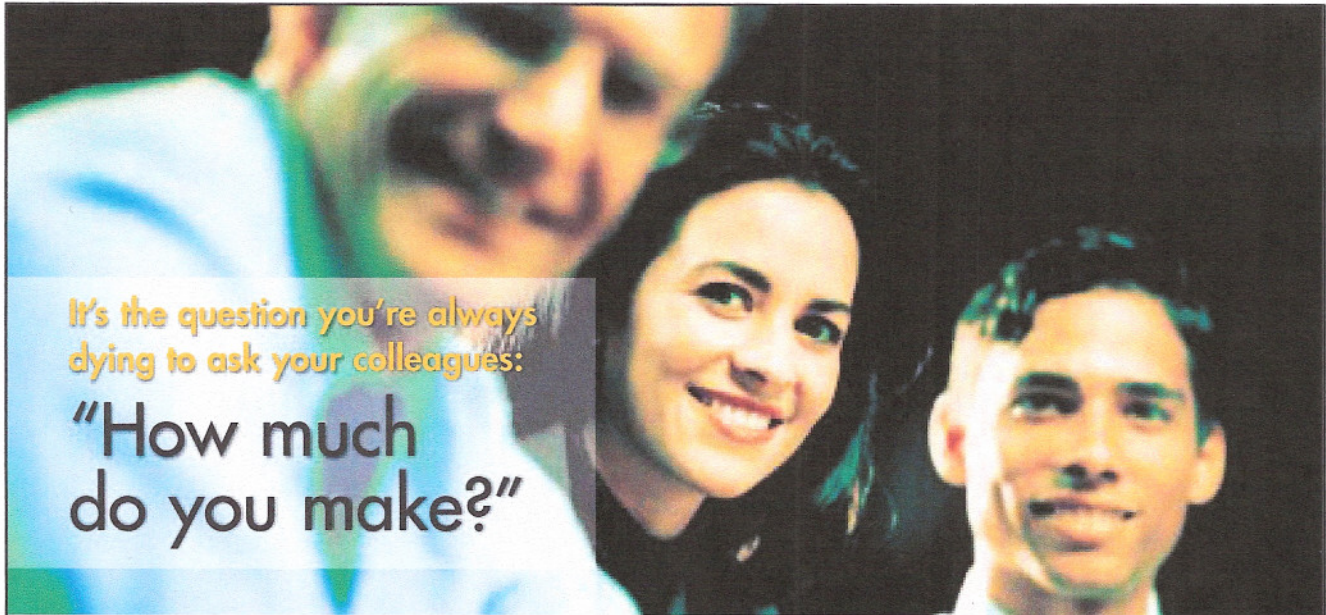
## AWARDS

### Juran Center Names 2007 Fellows, Award Winners

The Joseph M. Juran Center for Leadership in Quality at the University of Minnesota's Carlson School of Management recently named its 2007 Juran fellows. Six Juran fellows were selected from 20 applicants and receive \$10,000 to expand their quality research and its applications after graduation.

The fellows and their proposed research projects are:

- Wenny Chandra, Pennsylvania State University, "Improving Public Health System: Disease Surveillance for Pandemic Preparedness and Response Planning."
- Aravind Chandrasekaran, University of Minnesota, "Balancing Between Innovation and Improvement Projects in High Velocity Environments."
- Carla L. Fisher, Pennsylvania State University, "Competent Mother-Adult Daughter Communication: Behavior Essential to the Quality of Life when Coping With Breast Cancer Across the Life Span."
- Betty Harper, Pennsylvania State University, "An Investigation of the Role of Continuous Improvement in



It's the question you're always dying to ask your colleagues:

"How much do you make?"

We can help you avoid the awkward silence that most likely follows such a daring question—simply read the 2007 *Quality Progress* Salary Survey. But first, we need your help.

Please spend 10 minutes taking our salary survey at [www.asq.org/mr/qp-salary-survey-07.html](http://www.asq.org/mr/qp-salary-survey-07.html). Your participation will help ensure the best, most accurate results. Last year, we received a record number of responses. This year, we'd like to break that record.

Results of the survey will appear in the December issue of *Quality Progress*. Expanded results will be posted at [www.asq.org/pub/qualityprogress](http://www.asq.org/pub/qualityprogress).

