

THE STRENGTHS OF EUROPE'S SUPPLIERS

While Japan is still the world champion of quality in the assembly industries, there are some surprising differences in quality levels between automotive suppliers in the major European countries.

● Companies can only be successful in the long term if they place quality at the core of their corporate philosophy and strategy, according to a worldwide study of the automotive supply industry by McKinsey & Co, the international management consultancy, and the Technical University of Darmstadt in Germany.

The study, *Excellence in Quality Management*, found that the level of quality demanded by the automotive industry from its suppliers has risen steeply in recent years. "Quality, reliability and competitiveness are now the only sound basis on which to compete for new business," says Klaus Lederer, chairman of ITT Automotive Europe in the foreword to *Quality Pays*, a book based on the study findings. Customers expect zero defects. "This demands the best attention from everyone at every level of the supplier company along with total dedication to continuous improvement in everything we do to the point of perfection."

Compromise is not an option. Only companies devoted to quality are successful, profitable and on the road to

growth. So much is made clear. But the book points to some surprising conclusions about the relative strengths of suppliers in different regions.

McKinsey & Co did not set out to chronicle the differences – indeed, the study's main body of evidence reveals common features in both quality leaders and quality stragglers that transcend national borders. But if the 'quality companies' and 'lower- or average-quality' are grouped by region of origin, a clear divide appears between Japan, the US and Europe. The differences revealed are also perpetuated at the level of the individual countries of Europe.

The study is based on interviews with 167 suppliers which it ranked in four levels of quality management from I, the lowest quality, to IV the highest (see table, page 17). The following overview – summarized from an appendix to *Quality Pays* – shows the most striking national quality management features.

● JAPAN

Japan is still the world champion of quality in the assembly industries, particularly in the area of stable processes. Of the 20 Japanese companies in the study, 55% are on quality level IV and 30% on level III. Design for manufacturability is top class and production processes are stable, resulting in fault parts per million (ppm) of 30 and reject and rework rates of 1.1% and 1.3%, respectively.

The strengths of the Japanese lie in top management support for quality and good management of the two core processes, 'zero-defects production' and 'design to quality'. But workers need to be given more individual responsibility and the company structure should be made less hierarchical.

Japan has the highest figure for value added: \$82 an hour, about 25% higher than the US figure, \$65 an hour. The ratio of labour costs to value added is the best at 0.22.

● US

In the US, the entry of the Japanese automotive manufacturers started a dramatic catch-up race in terms of quality, productivity and technology. With a quality position of 9% of suppliers at level IV and 35% at level III, the Americans are, in this respect, somewhat superior to most of the Europeans. The ppm rate for complaints by car manufacturers (OEMs – original equipment manufacturers) is 748, lower than the European average of 1,010.

The quality management profile of American participants in the long-term study shows strength in employee mobilization, driven by the initiative and special attention of top management.

In terms of productivity, the Americans achieved second place behind the Japanese. With about \$65 of value added an hour, they are about 23% ahead of the Germans and, with a ratio of labour costs to value added of 0.24, they are again in second place behind Japan. The Americans owe their high productivity to leaner organization, team concepts in production and continuous improvement processes.

The average return on sales of about 5% was higher than the European figure of about 4%. About 30% of American participants in the systems segment of the industry were affected by the squeeze on returns. However, the dramatic growth in R&D efforts in recent years shows that the Americans are not content with this situation but will demand co-operation from OEMs in the future.

● GERMANY

The 62 participating German companies, which together account for about 30% of their sector's sales, provide the basis for a substantiated industry profile. Only 5% of participating companies are at quality level IV, the lowest share after Spain and Portugal. This can be seen particularly in the ratios for process quality: German companies, with an average reject rate of 2.8% (on a unit basis) and 1,050 defective ppm delivered to the OEM, had the second worst result after Spain and Portugal.

The quality management profile of the German companies shows a typical level II position – in other words, average quality performance. The greatest need for action is in restructuring and training the supplier base and upgrading employees' problem-solving skills. The higher-than-average figures for R&D by suppliers for OEMs confirm the technological competence of German automotive suppliers.

Labour productivity still stands up to European comparison, but is well behind international competition. With value added of \$53 an hour worked, German suppliers earn about as much as the French (\$54) and about 40% more than the British, but still more than 35% less than the Japanese. Two main factors prevent the Germans from drawing level on productivity: first, the number of hours worked a year which, at 1,583 hours, is the lowest; and sec-



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ond, labour costs which, at \$24.40 on average, are the highest of all participating countries.

With regard to the cost of capital, too, German labour costs at 4.8 are significantly higher than Japan's at 2.5. This is particularly striking because, in relation to value added, the cost of capital in Japan is lower than in Germany (0.08 compared with 0.09).

Without an unprecedented effort to close the quality gap, most German suppliers will go under sooner or later in the international market. The catch-up effort will need to begin with a drastic reduction in current levels of overcomplexity (for example, in numbers of parts, sub-assemblies and end products) and a focus on strategically important levers; it must continue by optimizing the entire value added chain from the supplier to the customer (concentration and integration). German companies should extend their product leadership to include process leadership.

● UK

According to the long-term study, the UK leads Europe in terms of quality. At 17%, British suppliers have the highest share of level IV companies after Japan and, with a further 50% at level III, they are the strongest Europeans.

The typical British supplier in the long-term study is a level III company. Improvements in the levers still assigned to level II are under way. As in the US, the presence in the UK of Japanese transplants (the largest number of any country in Europe) provides the necessary pressure to improve.

British suppliers invest a relatively high proportion of sales (3.8%) in development and, at 30%, have the second highest share of products superior to the competition in Europe after the Germans.

But British companies bring up the rear in terms of return on sales (2.3%), and their average growth of 7.5% a year between 1987 and 1991 was also the second lowest in Europe, just beating Germany at 5.4%. The 1990-91 recession is one of the factors behind the low growth rate, but the main reason is the neglect of labour productivity which, at \$38 value added per hour worked, was about 30% lower than the German level and 54% below the Japanese.

Quality has improved greatly in the UK since the beginning of the 1990s when the Japanese car manufacturers arrived. British top management has devoted itself intensely to quality, more so than that of any other country in

Europe. British companies still have much to do but most of the surviving companies are on the right track. In the light of the favourable labour costs in the UK, productivity improvement has initially been neglected. This is a phenomenon never observed among the very top companies which, as the Japanese have shown, improve quality and productivity at the same time.

Important levers for British suppliers include further training and involvement of shop-floor employees in problem solving, know-how building in the development department and more supplier training.

● FRANCE

Most of the French companies (64%) are at quality level II; 22% are at level III; and 7% at level IV. These figures indicate relatively stable processes, reflected in a ppm rate of 780, the second-lowest OEM complaint rate in Europe after the UK. While the reject rate of 2.7% is around the European average, the rework rate, at only 1.4%, is very impressive. These quality ratios were first achieved because of pressure from Peugeot and Renault.

The French quality management profile shows that most levers are well used on average. The most important levers for improvement are more intensive employee mobilization and support for the companies' own suppliers.

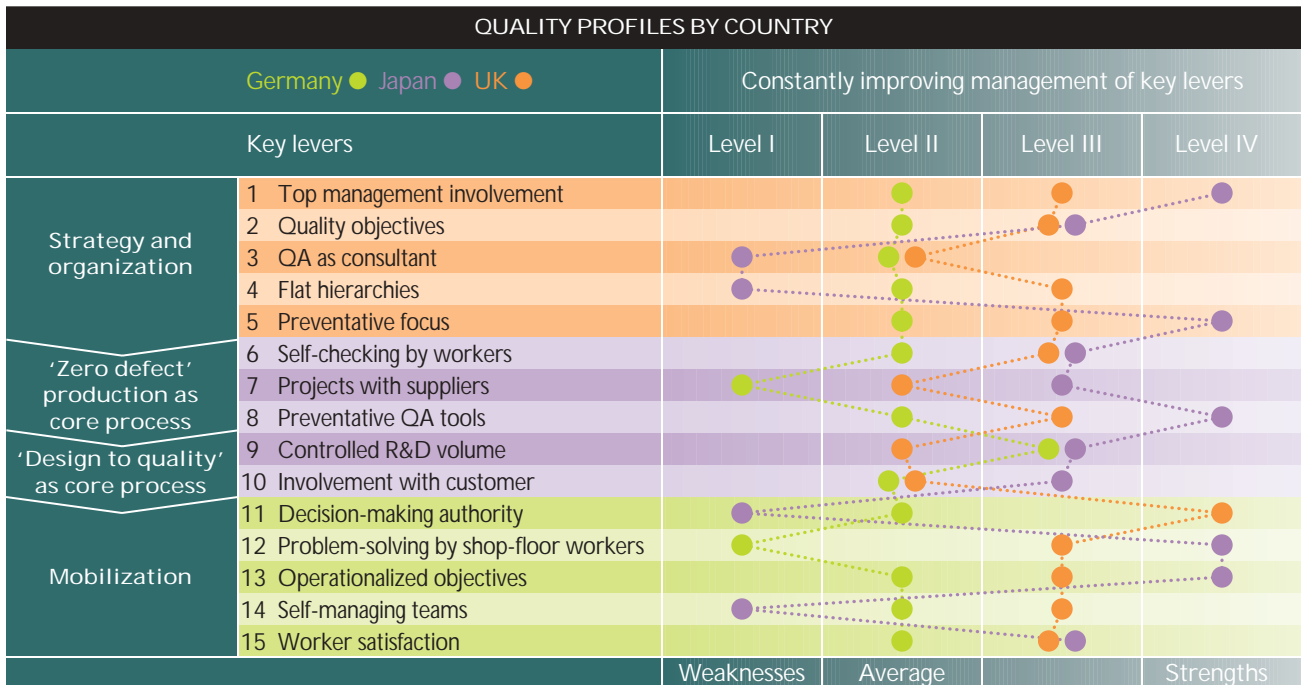
With average growth rates of 8.9% a year between 1987 and 1991, the French companies achieved around the industry average, and earned the second highest returns (5.6%) in Europe after Spain and Portugal.

This can be attributed primarily to the best value added in Europe (\$54 an hour worked). Together with low labour costs of about \$16.10 an hour, this gives a ratio of labour cost to value added of 0.3, the second best in Europe.

But the proportion of superior products at 18% is significantly below the European average of 32%. The main concerns of these companies should be to push forward into levels III and IV on the basis of customer orientation and the design of superior products.

● ITALY

About half of the Italian companies in McKinsey's long-term study are on level II. Their reject and rework rates are 1.7% and 1.5%, respectively. With 798 ppm defective (in terms of OEM complaints), the Italians are at about the



same level as the French suppliers.

The main strengths of the Italian quality management profile lie in its comprehensive definition of quality objectives throughout the business system and in its flat hierarchies. Action needs to be taken in the areas of supplier training and increased employee upskilling and mobilization.

At \$45, value added per hour is about 16% lower than in Germany and France. In terms of value added per employee, however, the Italians are level with the Germans because they work longer hours. Companies earn a return on sales of 4.9%, above the industry average, and achieve average growth rates of about 8%.

Italy has the highest share of companies in the systems segment and hi-tech segment. However, as the share of sales of products superior to those of the competition is only 22%, significantly lower than the European average, the Italians' position in these hi-tech segments is in jeopardy.

The main levers to improve the quality level of the Italian suppliers are primarily an improvement in design quality through stronger end-customer orientation and integration of OEMs.

● SPAIN/PORTUGAL

Spain/Portugal (the two countries are grouped together in the long-term study) lags the furthest behind on quality. No company was at the highest quality level, level IV; 22% of participants had reached level III, but the Iberian peninsula had the highest proportion of companies (43%) at the weakest level, level I. The ppm rate of 1,765 is the highest in the entire study, as is the reject rate of 4.9%. The share of products sold which are superior to those of the competition is only 12%.

At just under 5.8% return on sales was very attractive. This can be attributed to low labour costs (the lowest figure at \$13.50 an hour) and a high value added of \$50 an hour (mainly due to new factories with a layout optimized for productivity). At 0.27, Spain also has the best ratio of labour costs to value added.

In general, quality orientation in Spain and Portugal is the lowest of all the countries studied. The first step towards world-class quality would be to make quality a top priority in both the minds of management – especially top management – and employees. ●

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