

WORLD QUALITY REPORT

2011/12

MANUFACTURING

Lessons Learned from the Recession

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This is an extract from the *World Quality Report 2011-2012* which presents findings from a global survey completed online by over 1,200 CEOs, CFOs, CIOs, IT directors and managers, and quality assurance (QA) directors and managers around the globe. The goal of this report is to examine the state of application quality and testing practices across different industries and geographies.

The full report can be accessed at www.capgemini.com/testing or www.sogeti.com/testing.

The Manufacturing sector represents a diverse set of companies. Our focus for software testing in this sector includes primarily automotive and aerospace industries; defense and high-tech manufacturing; and the builders of industrial equipment and heavy machinery. These companies represent the most technology-intensive area of manufacturing, and highlight new and emerging trends in IT spending and QA.

For decades, manufacturing has relied heavily on technology for production processes, and today IT systems have become essential to virtually every aspect of the product lifecycle. Even the products themselves are becoming more and more software-centric. Take a car for instance – two decades ago, most of its value would have been in its parts and the metal of which it was made. Today, nearly half the value is the software that runs most of the car's essential systems. Along with the other verticals, the Manufacturing sector is in the midst of a digital transformation. Production facilities now have more technology and fewer people. Paper-based design and prototyping processes are giving way to digital

information that becomes the foundation of the manufacturing process. The different stages of the product lifecycle are now tightly linked together, and the digital information from engineering and manufacturing continues to carry through to the after-sales and services areas, with software systems precisely managing and storing all the relevant data.

The manufacturing value chain begins with R&D and engineering, followed by manufacturing, distribution, supply chain, marketing and sales, and, of course, services. Additionally, like all companies, manufacturers have a variety of essential supporting functions such as Finance and HR. Today's manufacturing companies spend money on the two ends of their value chain: increasing innovation on the R&D side, and reaching out to new markets and new customers on the marketing, sales, and services side.

The recent economic downturn has had a profound effect on the entire Manufacturing sector. IT spending declined sharply, and companies were forced to stop most discretionary contracts and just focus on running the business the best they could to get through rough times. When the economy started showing signs of recovery in late 2009, many Manufacturing companies chose not to return to the old days of spending large amounts on application maintenance, and opted to take a fresh look at their application portfolios. Through application retirement, consolidation, standardization, and virtualization, IT could significantly reduce its maintenance expenses and free up the resources to invest in innovation and forward-looking projects.

Application modernization is quickly becoming one of the top IT initiatives in nearly every Manufacturing company. Many IT departments are choosing to consolidate their HR, Finance, and other supporting functions into centralized ERP systems. Some of the lighter, less complex manufacturers are also embracing ERP systems for their supply chain management. Naturally, the more complex manufacturers – such as aerospace, aeronautics or automotive – with their sophisticated processes, still continue to rely on complicated, custom legacy systems. But as companies gradually return to the pre-recession levels of IT spending and continue to expand into new geographies and new product lines, they will move to more centralized, harmonized, and standards-based IT systems.

A similar trend can be observed in application quality. Manufacturers are moving towards establishing TCOE at a faster pace than any other industry – except Technology (a sector that in fact also includes high-tech manufacturing companies). Seven percent of our Manufacturing sector survey respondents indicate that they have a fully operational in-house TCOE, and a further 8% say they have started building a TCOE, but it is not yet working at full capacity. These findings demonstrate the mature position of manufacturing companies with respect to industrialization and higher quality standards compared to other verticals.

In fact, IT across all industries has borrowed many concepts and methodologies from manufacturing. The most commonly used software quality standards and practices such as Six Sigma and Total Quality Management (TQM) have been influenced by the factory processes. Today, Manufacturing companies are among the strongest supporters of quality frameworks and consistently measure quality metrics across the entire company.

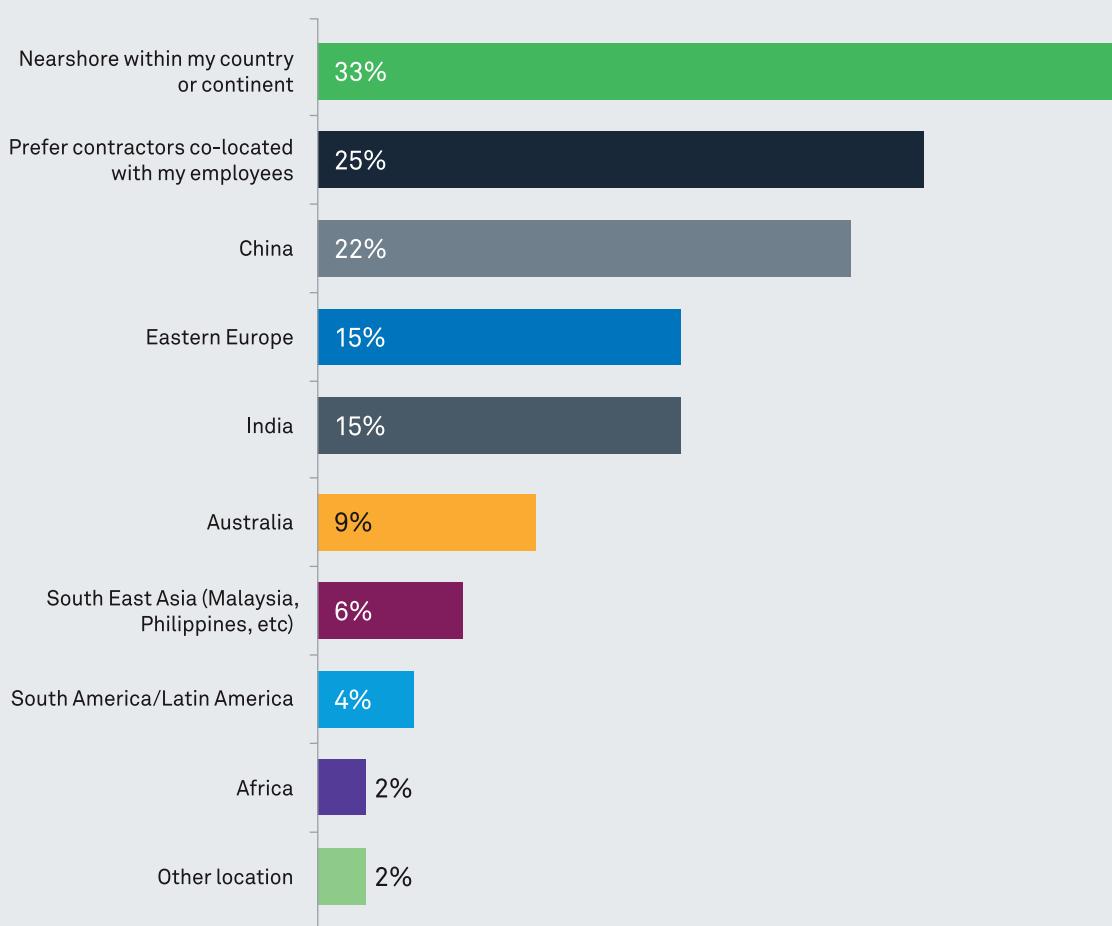
Another familiar concept to manufacturers worldwide is the outsourcing of factories and Manufacturing centers in order to leverage economies of scale and available skilled labor in lower-cost geographies. Our survey shows that Manufacturing companies are comfortable with the concept of QA outsourcing, with 50% of the respondents saying that between 11% and 50% of their testers are contractors or outsourced third-party vendors, and a further 7% indicating that between half and all of their testers are not part of the in-house QA group.

Similar to other industries, Manufacturing companies prefer co-location of resources, but unlike other sectors where India dominates as the leading offshore location of QA, China leads in the Manufacturing industry. The first preference for outsourcing is nearshore within the Manufacturer's country or continent (33%). The second preference is a close split between co-location (25%) and outsourcing to China (22%). This comes as no surprise, as manufacturers are accustomed to partnering with providers in China, which has essentially become the manufacturing center of the world (see Figure 32).

Manufacturers view China as a business partner. In addition to being a trusted “buy from” country, China is quickly emerging as a lucrative “sell to” market. Many companies in the Manufacturing sector are moving their entire IT operations to China in order to stay ahead of this promising opportunity.

FIGURE 32

WHAT WOULD BE YOUR IDEAL GEOGRAPHICAL LOCATION TO CONTRACT AND/OR OUTSOURCE YOUR TESTING ACTIVITIES (SELECT ALL THAT APPLY)?



Contacts

We value your comments and ideas. We welcome you to contact us in relation to any questions you might have concerning the 2011-2012 *World Quality Report*.

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About Capgemini and Sogeti

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Together, Capgemini and Sogeti have developed innovative, business-driven quality assurance (QA) and testing services, combining best-in-breed testing methodologies (TMap® and TPI®) and the global delivery model, Rightshore®, to help organizations achieve their testing and QA goals. Capgemini and Sogeti have created one of the largest dedicated testing practices in the world, with over 8,200 test professionals and a further 12,500 application specialists, notably through a common center of excellence with testing specialists developed in India.

More information is available at:
www.capgemini.com/testing
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Our Business Technology Optimization (BTO) products, along with our new and complete approach to Application Lifecycle Management (ALM), help our customers to achieve better business outcomes.

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