Operational excellence

Ensuring consistent, high-quality service delivery in process automation

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Operational excellence is not just a buzz word at ABB – it is a globally implemented initiative that provides value to its customers. As a supplier, ABB must meet the increasing expectations of customers to provide better quality, improved process performance and reliability at lower prices. To fulfill these requirements, ABB Process Automation Service and its 20,000 service and maintenance specialists around the world have been implementing an Operational Excellence Program.

Operational excellence

At ABB, there is a global team dedicated to the operational excellence initiative that works closely with the local service organizations. This program is based on the European Foundation for Quality Management (EFQM) Business Excellence Model, which is used by thousands of organizations worldwide to drive business improvements.

ABB strives to optimize its service delivery by offering customers standardized offerings, consistent quality and global processes. This is especially critical for global customers, so that they can expect and receive the same service, quality and price regardless of their plant location.

While operational excellence can refer to just about any tool or process that is implemented to improve business performance, here the focus is on those tools and processes that directly impact customer operations 1. These include common processes, site assessments and knowledge sharing. Above all, customer satisfaction management and people satisfaction management are essential parts of delivering first-class service to the customer Factbox.

Common processes ensure consistency
When a company operates in 100 countries, it is only natural to assume that there are 100 different ways to do business. That is why ABB has developed global processes that ensure consistent delivery of services to its customers in any country 2. How can ABB guarantee that a customer's production will increase by 15 percent? Or how can ABB ensure that its customers take advantage of the latest maintenance technology, whether they are a paper plant or a stainless steel producer? These are the kind of questions ABB considered when developing its common processes.

ABB's global processes are essentially the way its employees work and speak "one language" in the many countries in which the company and its customers operate. ABB has identified and developed a set of common management and support processes as well as business-related core processes 2. Each process consists of multiple phases that are described in detail, with tools provided to implement the processes at customer sites.

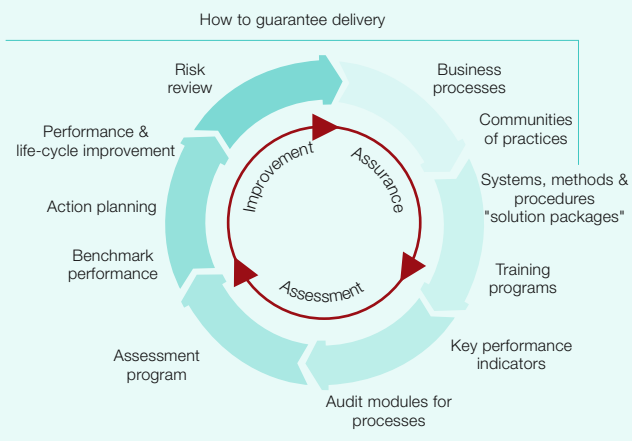
Factbox Satisfaction

Customer satisfaction management
The ultimate measure of service quality is a customer's perception of the service. Therefore, ABB has developed a global customer satisfaction survey program that provides a proactive way to understand and manage customers' needs and satisfaction. The high-level reporting is designed to track development trends, show performance levels against customer expectations and track customer loyalty. The focal points of customer satisfaction management are target setting, managing actions and communicating improvements to the customer.

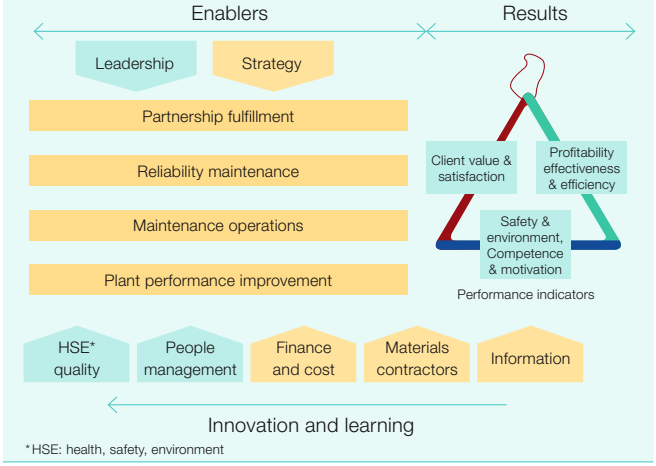
Besides the customer-specific results, global customer satisfaction reporting includes country-, regional- and global-level analyses, providing valuable insight to ABB management. 4 shows the ABB Full Service® customers' satisfaction level by region. Globally covering all Full Service sites, the results are an excellent source for benchmarking and marketing purposes. Special analyses about production effectiveness, occupational health and safety issues, and the like also can be tailored for local and global specialists.

People satisfaction management
In the service business, the workforce is the most valuable asset. Keeping people motivated is an essential part of operational excellence. ABB has developed a systematic way of continuously improving people satisfaction. The global people satisfaction survey maps both people's expectations and satisfaction, providing a progressive way to focus on the areas that are most important to its staff. In addition, a typical survey provides valuable insights about the strengths and development areas at country, regional and global levels. 5 shows the global people satisfaction trend in ABB Process Automation Services.

1 ABB's Operational Excellence Program is a continuous improvement business circle that helps to guarantee that service delivery fulfills expectations.



2 ABB's consistent process model for development and implementation of Full Service and Life Cycle Services concepts: The excellence of operation is then assessed against the same model.



Operational excellence

Over the years, ABB has continuously improved its tools and processes, which have now reached a sophisticated level of detail. People management is one example. When ABB implements a maintenance strategy at a customer site, an extensive people-competence mapping is also performed. A lack of competent personnel can threaten the availability of a plant's production due to the increasing technology advances and the fact that the Baby Boomer's generation is approaching retirement. As the average manufacturing worker is 50 years old, and with many companies having downsized their work force, the consequences of the upcoming wave of retirements could be detrimental.

When ABB's site management team systematically reviews the maintenance competencies at a plant, the customer is given a long-term plan to ensure the availability of qualified personnel. This plan outlines any type of training needs and training schedules, and oftentimes early recruiting is done to develop certain capabilities. This people-management process, as well as many of ABB's common processes, was developed by utilizing leading practices implemented at one or more ABB sites around the world.

At ABB, service goes hand in hand with maintenance. Thus reliability maintenance is one of the company's core processes. It includes general and industry-specific approaches on how the reliability and life cycle of plant equipment can be improved. Drawing on the experience of ABB's benchmark data, it is possible, for example, to easily identify industry-specific fault trees, develop preventive maintenance plans or feed the right instructions into the Computerized Maintenance Management System (CMMS).

Partnership fulfillment is another valuable process that refers to ABB's goal to act as a partner in the customer-supplier relationship. This means working together with the customer to jointly develop a maintenance strategy that addresses the customer's targets and production strategy. For example, the desired key performance indicators (KPIs) are identified and captured. ABB then provides the customer with access to relevant industry trends and benchmark data in order to create a common strategy to reach a world-class level.

Fact-based decision making

Many customers outsource their entire plant maintenance functions to ABB so they can focus solely on the core task of making quality products. With these ABB Full Service® arrangements, ABB assumes responsibility for the people and processes that influence customer profits.

Full Service sites are required to undergo site assessments, which are necessary for continuous improvement of business performance and customer relationships. This operational excellence technique provides on-site managers with the information needed to make fact-based decisions. The site assessments are conducted by an ABB team that includes a global senior assessor supported by local service employees who are invaluable in achieving an understanding of the local business environment and culture. To ensure use of the right benchmarks, an industry expert is also present to assess the reliability and performance improvement activities as well as industry-specific metrics.

With each site assessment, ABB provides a comprehensive review of a Full Service site's approaches and KPIs compared to best-in-class practices. The assessment starts with proper planning and the preparing and collecting of data, followed by the actual site assessment. Afterwards, feedback and leading practices are collected and incorporated into ABB's benchmark database.

An important part of the site assessment is the customer interview. For optimal facilitation, the interview is conducted by an external site assessor. This promotes an objective discussion of the most important topics related to maintenance execution and fulfillment of expectations with the customer in an open and constructive atmosphere. This approach is critical to ensuring that customer requirements are properly addressed and future challenges anticipated.

The site assessment report contains observations and recommendations for improvement and is shared with the customer. ABB then discusses the plant's maintenance operations with the customer, and, as a result, the findings and action plans are incorporated into the Maintenance Management Master Plan (MMMP), which integrates the customer's industry-specific targets with the systematic ABB Full Service® concept.

Site assessments are conducted annually, and between the assessments ABB regularly reviews the follow-up actions to ensure that improvement activities are implemented at customer sites. A certification program in conjunction with the site assessments is based on customer satisfaction, people satisfaction and financial results, and identifies maintenance excellence at its Full Service sites.

The usefulness of site assessments was demonstrated at the Vale Inco Labrador Ltd.[1)] in Canada. ABB has a Full Service operation at this remote mining plant and performed a site assessment there in late 2006. Today, the site has implemented most of the resulting recommendations, including common KPIs and reporting of partnership values, systematic reliability engineering functions, and structured preventive maintenance using a CMMS system. ABB's Optimize^{IT} Asset Optimizer is implemented at the site, with remote diagnostics of the main production equipment 3. The implementation was swift, which helped the site attain an all-time high production

Footnote

1) See also "A head start to profitability" on page 88 of this *ABB Review Special Report*.

3 ABB's Optimize^{IT} Asset Optimizer helps to monitor and improve the condition of critical equipment at customer sites

Operational excellence

level in 2006 and achieve 15 percent above the Overall Equipment Effectiveness (OEE) targets in the third quarter of 2007. This led to an ABB Full Service® Silver Certificate accreditation for the Vale Inco Full Service site.

Sharing the assessment findings with the customer enables a common understanding of the levels achieved in a particular process or results area. It is a way of identifying the current status compared to best-in-class and allows both parties to set targets based on the recommendations that best support the customer's production strategy.

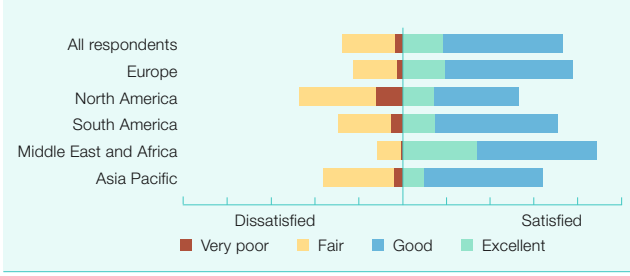
Knowledge sharing

In the past, it was common for employees not to share their knowledge or experience with their colleagues, as being the sole point person for specific information areas was seen as job security. Today's workforce is much more team oriented, and ABB has undergone a cultural change in this direction as well. Now a job actually requires every employee to share his or her knowledge.

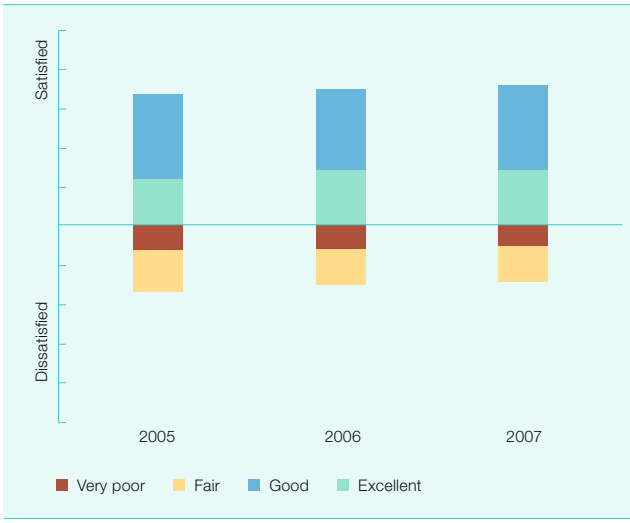
As part of ABB's common processes, the company has developed a knowledge management tool to collect and share information. This Service Knowledge Portal allows ABB to capitalize on the knowledge of some 20,000 service employees worldwide. The portal allows a quick response to customers' problems and challenges. Information in the portal is organized around relevant topics and allows employees to connect and collaborate with others in their field. For example, a section called "Failure Museum" includes a series of topical failures and recommended solutions to prevent recurrences.

A specific area of knowledge sharing is the leading practices section that helps identify innovative solutions and good workmanship at maintenance operations. The leading practices are categorized by the different processes and associated activities, so the process area specialists can easily track relevant information. The goal is to share information from one site with others around the world, thus providing customers with the best possible process or solution. This global network is a competitive advantage for ABB and its customers. Companies who perform solely in-house maintenance would not have access to this kind of expertise.

4 Service excellence means high customer satisfaction. The customer satisfaction measurement covers all countries and provides the best service quality measure globally with 47,000 customer opinions.



5 People value is measured globally through the people satisfaction survey. Improved trends are achieved by identifying three main improvement areas after each study.



6 Operational excellence principles can be summarized with the values triangle: Customer, ABB and people value are in balance.

The benefits of the portal are illustrated in a real-life example using the section of the portal called "Emergencies": A piece of critical equipment at a customer's plant in Australia broke down. Unfortunately, the part required to make the necessary repairs was no longer manufactured and there were no spare parts available. The ABB site manager posted an emergency notification in the Service Knowledge Portal explaining the situation. A reliability engineer in Brazil read the emergency post and was able to find the spare part at his maintenance site. Within days, the part was sent to Australia and installed. What could have taken four months of delivery time and expensive shutdown time was resolved in only four days thanks to ABB's global network.

Operational excellence

ABB's Operational Excellence Program provides value to ABB, its customers and people 6. By using a structured approach, ABB is able to deliver standardized services, consistent quality and global know-how. A common language helps ABB serve its customers consistently no matter what country they operate in.

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