FreeQuality.Org Glossary
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This is searchable if you use the "find" function in MS Word.

acceptable quality level (AQL) The maximum percentage or proportion of nonconformities in a lot or batch that can be considered satisfactory as a process average.
acceptance sampling Statistical quality control technique used in deciding to accept or reject a shipment of input or output.
active data gathering A method for gathering data that involves approaching respondents to get information.
actively solicited customer feedback Proactive methods for obtaining customer feedback such as calling customers on the telephone or inviting customers to participate in focus groups.
activity network diagram Also knows as a PERT diagram, an activity network diagram is a tool used in controlling projects.
aesthetics A dimension of quality that refers to subjective sensory characteristics such as taste, sound, look, and smell.
affinity diagram A tool that is used to help groups identify the common themes that are associated with a particular problem.
alignment Term that refers to optimal coordination among disparate departments and divisions within a firm.
andon A Japanese term that refers to the warning lights on an assembly line that light up when a defect occurs. When the lights go on, the assembly line is usually stopped until the problem is diagnosed and corrected.
annuity relationship This occurs when a business receives many repeat purchases from a customer. The income is received steadily over time from a single customer.
appraisal costs Expenses associated with the direct costs of measuring quality.
assurance A dimension of service quality that refers to the knowledge and courtesy of employees and their ability to inspire trust and confidence.
attribute A binomial state of being.
attrition The practice of not hiring new employees to replace older employees who either quit or retire.
award audits Site visits relating to award programs.
Baldrige-lite Term used to depict states' quality award programs using the same criteria as the Malcolm Baldrige National Quality Award but with a simplified process or application.
Baldrige-qualified Term used by firms that have been granted a site visit by the judges in the Malcolm Baldrige National Quality Award competition.
basic events Term used in fault tree analysis. Basic events are initiating faults that do not require events below them to show how they occurred. The symbol used for a basic event is a circle.
basic prototype Nonworking mock-up of a product that can be reviewed by customers prior to acceptance.
basic seven (B7) tools of quality These are the fundamental methods for gathering and analyzing quality-related data. They are: fishbone diagrams, histograms, Pareto analysis, flowcharts, scatter plots, run charts, and control charts.
bathtub-shaped hazard function Reliability model that shows that products are more likely to fail either very early in their useful life or very late in their useful life.

benchmark An organization that is recognized for its exemplary operational performance in one or more areas and is willing to allow others to view its operations and tour its facilities.

benchmarking The process of finding a company that is superior in a particular area, studying what it does, and gathering ideas for improving your own operation in that area.

best-of-the-best Term used to refer to outstanding world benchmark firms.

best-in-class Term used to refer to firms or organizations that are viewed as the best in an industry on some meaningful criterion.

***c* chart** A chart used to monitor the number of defects in a production process.

capability Likelihood a product will meet specification.

catchball Term used to describe the iterative nature of the Hoshin planning process.

categorizing The act of placing strengths and weakness into categories in generic internal assessment.

cause and effect (or fishbone or Ishikawa) diagram A diagram designed to help workers focus on the causes of a problem rather than the symptoms.

certification audits Audits relating to registration (e.g., ISO 9000 audits).

chain of customers A philosophy that espouses the idea that each worker's "customer" is the next worker in the chain of people that produce a finished product or service.

change In the context of quality management, this means to move from one state of operation to another state of operation.

check sheets Data-gathering tools that can be used in forming histograms. The check sheets can be either tabular or schematic.

compensate (1) To pay or remunerate for some work; (2) To make up for some lack of ability or acuity.

complaint-recovery process Process associated with resolving complaints.

complementary products Products that use similar technologies and can coexist in a family of products.

component reliability The propensity for a part to fail over a given time.

computer-aided design (CAD) A system for digitally developing product designs.

computer-aided inspection (CAI) A system for performing inspection through the use of technology. For example, some systems use infrared to detect defects.

computer-aided testing (CAT) Technology for taking tests or examinations.

computer-based training A form of training that uses specialized software, known as courseware, to address specific topics.

concept design The process of determining which technologies will be used in production and the product.

concurrent engineering The simultaneous performance of product design and process design. Typically, concurrent engineering involves the formation of cross-functional teams. This allows engineers and managers of different disciplines to work together simultaneously in developing product and process designs.

conformance A dimension of quality that refers to the extent to which a product lies within an allowable range of deviation from its specification.

consultant audits Inspections that are performed by consultants to determine how an organization should be changed for improvement.

Consumer Product Safety Commission (CPSC) An independent federal regulatory agency that helps keep American families safe by reducing the risk of injury or death from consumer products.

consumer's risk The risk of receiving a shipment of poor quality product and believing that it is good quality.

contact personnel The people at the "front lines" who interact with the public in a service setting.

contingency theory A theory that presupposes that there is no theory or method for operating a business that can be applied in all instances.

contract review Contract review involves the steps associated with contracting with suppliers. These steps involve acceptance of the contract or order, the tender of a contract, and review of the contract.

contrition Forgiveness for error or mistake.

control charts Tools for monitoring process variation.

control factors Variables in a Taguchi experiment that are under the control of the operator. These can include things such as temperature or type of ingredient.
control process A process involving gathering process data, analyzing process data, and using this information to make adjustments to the process.
conversion process Aligning the inputs of a process together to form a product or service.
criticality A term that refers to how often a failure will occur, how easy it is to diagnose, and whether it can be fixed.
cross-functional teams Teams with members from differing departments and vocations.
cross-training Training an employee to do several different jobs.
customer Anyone who is the receiver of the goods or services that are produced.
customer benefits package (CBP) The package of tangibles and intangibles that make up a service.
customer contact A characteristic of services that notes that customers tend to be more involved in the production of services than they are in manufactured goods.
customer coproduction The participation of a customer in the delivery of a service product. For example, in many restaurants it is not uncommon for customers to fill their own drinks.
customer-driven quality Term that refers to a proactive approach to satisfying customer needs.
customer expectations (1) What customers expect from a service provider; (2) A part of the SERVQUAL questionnaire.
customer future needs projection Predicting the future needs of customers and designing products that satisfy those needs.
customer perceptions (1) How customers view products or services; (2) The second part of the SERVQUAL survey.
customer rationalization The process of reaching an agreement between marketing and operations as to which customers add the greatest advantage and profits over time.
customer-related ratios Ratios that include customer satisfaction, customer dissatisfaction, and comparisons of customer satisfaction relative to competitors.
customer-relationship management A view of the customer that asserts that the customer is a valued asset that should be managed.
customer retention The percentage of customers who return to a service provider or continue to purchase a manufactured product.
customer service surveys Instruments that consists of a series of items (or questions) that are designed to elicit customer perceptions.
deduction An approach to theory development based on modeling.
Deming prize A Japanese quality award for individuals and groups that have contributed to the field of quality control.
design control A set of steps focused on managing the design of a product.
design for disassembly A method for developing products so that they can easily be taken apart.
design for maintainability A concept that states that products should be designed in a way that makes them easy for consumers to maintain.
design for manufacture (DFM) The principle of designing products so that they are cost effective and easy to make.
design for remanufacture A method for developing products so that the parts can be used in other products. Associated with green manufacturing.
design for reuse Designing products so they can be used in later generations of products.
design of experiments (DOE) An approach to product design that involves identifying and testing alternative inputs to the production of a product to identify the best mix of inputs.
design review The process of checking designs for accuracy.
development plan A plan that identifies the skills that will be required for a particular employee to move up in an organization.
distance learning Training that is conducted in one location and is observed in a distant location through telecommunications technology.
dual sourcing Using only a few suppliers for a single component.

durability A dimension of quality that refers to a product's ability to withstand stress or trauma.
electronic data interchange (EDI) Using computers to share data between customers and suppliers.
empathy A dimension of service quality that refers to the amount of caring and individualized attention exhibited by the service firm.
empowerment A management initiative designed to move decision making to the lowest level in the organization.
end user The ultimate user of a product or service.
engineering analysis The process of applying engineering concepts to the design of a product, including tests such as heat transfer analysis, stress analysis, or analysis of the dynamic behavior of the system being designed.
enterprise capabilities Capabilities that make firms unique and attractive to customers.
enterprise resource planning (ERP) system A system that integrates financial, planning, and control systems into a single architecture. Examples include the SAP R/3 system and Oracle.
evaluation Assessment of how relevant resources and capabilities are to generic strategies in generic internal assessment.
experiential training techniques Training that is hands-on and provides the recipients of training the opportunity to experience in some manner the concepts that are being taught.
exporter A firm that sells its product in another country.
external customers The ultimate consumers of the goods that an organization produces.
external events A term used in fault tree analysis. An external event is an event that is normally expected to occur and thus is not considered a fault when it occurs by itself.
external failure costs These are monetary losses associated with product failure after the customer has possession of the product. These may include warranty or field repair costs.
external services Service that are provided by companies other than yours.
external validation Using benchmarking as a way to ensure that a firm's current practices are comparable to those being used by benchmark firms.
facilitation Helping a team or individual achieve a goal. Often used in meeting or with teams to help the teams achieve their objectives.
facilitator The person who performs facilitation. This person may be trained in group dynamics, teamwork, and meeting management methods.
failure costs Two sets of costs—internal failure costs and external failure costs. Internal failure costs include those costs that are associated with failure during production, whereas external failure costs are associated with product failure after the production process.
failure mode, effect, and criticality analysis (FMECA) FMECA is an extensive but simple method for identifying ways in which an engineered system could fail. The primary goal of FMECA is to develop priorities for corrective action based on estimated risk.
failure modes and effects analysis (FMEA) Method for systematically considering each component of a system by identifying, analyzing, and documenting the possible failure modes within a system and the effects of each failure on the system.
fault tree analysis An analytical tool that graphically renders the combination of faults that lead to the failure of a system.
features A dimension of quality that refers to those attributes of a product that supplement the item's basic performance.
final product definition The process of articulating the final drawings and specifications for a product.
financial benchmarking A type of benchmarking that typically involves using CD ROM databases such as Lexis/Nexis or Compact Disclosure to gather information about competing firms to perform financial analyses and compare results.
financial ratios Numerical ratios of firm performance such as return on equity, return on assets, and earnings per share.
five Ss A process for inducing discipline in an organization.

5w2h Who, what, when, where, why, how, and how much.
flowcharts A pictorial representation of the progression of a particular process over time.
focus group A group of people who are brought together and are asked to share their opinions about a particular product or service.
forming The first stage of team development, where the team is formed and the objectives for the team are set.
full-Baldrige approach Term used to depict states' quality award programs using the same criteria as the Malcolm Baldrige National Quality Award.
functional benchmarking A type of benchmarking that involves the sharing of information among firms that are interested in the same functional issues.
gap The difference between desired levels of performance and actual levels of performance.
gap analysis A term associated with the SERVQUAL survey instrument, gap analysis is a technique designed to assess the gap that can exist between a service that is offered and customer expectations.
geometric modeling A technique used to develop a computer-based mathematical description of a part.
globalization An approach to international markets that requires a firm to make fundamental changes in the nature of its business by establishing production and marketing facilities in foreign markets.
green manufacturing A method for manufacturing that minimizes waste and pollution. These goals are often achieved through product and process design.
group decision support system A computer system that allows users to anonymously input comments in a focus group type of setting.
group technology A component of CAD that allows for the cataloging and standardization of parts and components for complex products.
hard data Measurements data such as height, weight, volume, or speed that can be measured on a continuous scale.
hardware mock-ups Physical representations of hardware that show designers, managers, and users how an eventual system will work.
heterogeneous A characteristic of services that means that for many companies, no two services are exactly the same. For example, an advertising company would not develop the same advertising campaign for two different clients.
hidden factory A term introduced by Wickham Skinner that refers to firm activities that have no effect on the customer.
histogram A representation of data in a bar chart format.
horizontal deployment A term that denotes that all of the departments of a firm are involved in the firm's quality efforts.
Hoshin planning process A policy deployment approach to strategic planning originated by Japanese firms.
house of quality Another name for quality function deployment.
human resource measures Ratios that are used to measure the effectiveness of a firm's human resource practices.
ideal quality A reference point identified by Taguchi for determining the quality level of a product or service.
individual needs assessment A method for determining training needs at the worker level prior to developing and implementing training programs. Often associated with company literacy programs.
induction An approach to theory development based on observation and description. Although the process of induction is useful, it is subject to observer bias and misperception.
initiator firm The firm that is interested in benchmarking and initiates contact with benchmark firms.
in-process inspection The practice of inspecting work, by the workers themselves, at each stage of the production process.
intangible A characteristic of services that means that services (unlike manufactured goods) cannot be inventoried or carried in stock over a long period of time.
interference checking A feasibility test for product designs to make sure that wires, cabling, and tubing in products such as airplanes don't conflict with each other.

internal assessment The act of searching for strengths and areas for improvement in quality deployment.
internal customers Individuals within the organization that receive the work that other individuals within the same organization do.
internal failure costs Losses that occur while the product is in possession of the producer. These include rework and scrap costs.
internal services Services that are provided by internal company personnel. For example, data processing personnel are often considered providers of internal services.
internal validation Method of studying the quality system to find gaps in quality deployment.
interrelationship digraph A tool designed to help identify the causal relationships between the issues affecting a particular problem.
investigation Ability to find sources of competitive advantage in generic internal assessment.
involuntary services A classification for services that are not sought by customers. These include hospitals, prisons, and the Internal Revenue Service.
ISO 9000 The European standard for quality that has been expanded worldwide. ISO stands for Organization for International Standards.
job analysis The process of collecting detailed information about a particular job. This information includes tasks, skills, abilities, and knowledge re- quirements that relate to certain jobs.
just-in-time (JIT) (1) A method for optimizing processes that involves continual reduction of waste; (2) The Toyota Motor Company production system; (3) An umbrella term that encompasses several Japanese management techniques.
just-in-time (JIT) purchasing An approach to purchasing that requires long-term agreements with few suppliers.
key business factors (KBF) Those measures or indicators that are significantly related to the business success of a particular firm.
knowledge-growth systems A compensation system that increases an employee's pay as he or she establishes competencies at different levels relating to job knowledge in a single job classification.
knowledge work Jobs that consist primarily of working with information.
law of diminishing marginal returns A law that stipulates that there is a point at which investment in quality improvement will become uneconomical.
leader behavior A view of leadership stating that leadership potential is related to the behaviors an individual exhibits.
leadership The process by which a leader influences a group to move toward the attainment of a group of superordinate goals.
leader skills A view of leadership stating that leadership potential is related to the skills possessed by an individual.
leading The power relationship between two or more individuals where the power is distributed unevenly.
learning curve effect A theoretical concept that suggests that the more you do something, the better you become at doing it.
licensing A method of reaching international markets that does not require the establishment of international supply chains or marketing arms.
life testing A facet of reliability engineering that concerns itself with determining whether a product will fail under controlled conditions during a specified life.
line-stop authority The approval authority to stop a production line whenever a problem is detected.
loss to society According to Taguchi, this occurs every time a dimension in a product varies from its target dimension. This is associated with Taguchi's "ideal quality."
lot tolerance percent defective (LTPD) The maximum level of percent defective acceptable in production lots.
Malcolm Baldrige National Quality Award (MBNQA) A U.S. national quality award sponsored by the U.S. Department of Commerce and private industry. The award is named after former Secretary of Commerce Malcolm Baldrige.
malpractice The result of mistakes made by a professional service provider.

management by fact A core value of the Baldrige award that focuses on data-based decision making.
manufacturing-based Dimensions of quality that are production related.
manufacturing system design The process of designing a manufacturing system.
market share data A comparative measure that determines relative positions of firms in the marketplace.
matrix diagram A brainstorming tool that can be used in a group to show the relationships between ideas or issues.
meeting management A term that refers to the effective management of meeting in an organization.
moment of truth In a service context, the phrase "moment of truth" refers to the point in a service experience at which the customer expects something to happen.
mourning The final stage of the team life cycle, where team members regret the ending of the project and the breaking up of the team.
MR chart A chart for plotting variables when samples are not possible.
multilevel approach Term used to depict state quality award programs that include two levels: a top level based on the full-Baldrige criteria and a second level based on the Baldrige-lite approach.
multiple skills systems A method for developing employees so that they can perform more than a single task.
multi-user-CAD systems Computer aided design systems that are networked so that multiple designers can work on a single design simultaneously.
natural work groups A term used to describe teams that are organized according to a common product, customer, or service.
new seven (N7) tools Managerial tools that are used in quality improvement.
norming The third stage of team development, where the team becomes a cohesive unit, and interdependence, trust, and cooperation are built.
nonrandom variation Controllable variation.
***np* chart** A chart used to monitor the number of items defective for a fixed sample size.
off-line experimentation A method for determining the best configurations of processes. Usually uses a design of experiments (DOE) format such as the Taguchi method or Plackett-Burman experiments.
on-the-job training Training that an employee receives at work during the normal work day.
operating characteristic (OC) curve An assessment of the probability of accepting a shipment, given the existing level of quality of the shipment.
operating results Measures that are important to monitoring and tracking the effectiveness of a company's operations.
operational auditing Modern auditing practices that focus on operational efficiencies.
ordinal data Ranked information.
organizational design The proces of defining the best structure to meet company objectives.
organizational learning The sum of the changes in knowledge among the employees of a firm.
orthogonal arrays Experimental design tools that ensure independence between iterations of an experiment.
over-the-wall syndrome Difficulties that arise when different types of engineers work in totally different departments in the same firm.
***p* chart** A chart used to monitor proportion defective.
paper prototypes A series of drawings that are developed by the designer on CAD systems and are reviewed by decision makers prior to acceptance.
parallel processing in focused teams Performing work simultaneously rather than sequentially.
parameter design Designing control factors such as product specifications and measurements for optimal product function.
Pareto analysis An economic concept identified by Joseph Juran that argues that the majority of quality problems are caused by relatively few causes. This economic concept is called Pareto's law or the 80/20 rule. Juran dichotomized the population of causes of quality problems as the vital few and the trivial many.

Pareto chart Chart used to identify and prioritize problems to be solved.
Pareto's law (the 80/20 rule) 80 percent of the problems are a result of 20 percent of the causes.
parking lot A term used in meetings that refers to a flipchart or whiteboard where topics that are off-the-subject are "parked" with the agreement that these topics will be candidates for the agenda in a future meeting.
partnering An approach to selling in foreign markets that involves the collaborative effort of two organizations.
passive data gathering This occurs when the customer initiates the data gathering for a firm such as filling out a customer complaint card or sending an e-mail. The firm provides the mechanism for feedback, the customer must initiate the use of the mechanism.
passively solicited customer feedback A method of soliciting customer feedback that is left to the customer to initiate, such as filling out a restaurant complaint card or calling a toll-free complaint line.
pay-for-learning programs Programs that involve compensating employees for their knowledge and skills rather than singularly for the specific jobs they perform.
perceived quality A dimension of quality identified by David Garvin that refers to a subjective assessment of a product's quality based on criteria defined by the observer.
performance A dimension of quality that refers to the efficiency in which a product performs its intended purpose.
performance benchmarking A type of benchmarking that allows initiator firms to compare themselves against benchmark firms on performance issues such as cost structures, various types of productivity performance, speed of concept to market, and quality measures.
performing The fourth stage of team development, where a mutually supportive, steady state is achieved.
physical environment The geographic area that is in the proximity of an organization.
plan-do-check-act (PDCA) cycle A process for improvement pioneered by W. E. Deming.
presidential audits Annual audits where the president leads the quality audit.
prevention costs Costs associated with preventing defects and imperfections from occurring.
preventive maintenance Maintaining scheduled up-keep and improvement to equipment so equipment can actually improve with age.
prioritization grid A tool used to make decisions based on multiple criteria.
process benchmarking A type of benchmarking that focuses on the observation of business processes including process flows, operating systems, process technologies, and the operation of target firms or departments.
process charts Tools for monitoring process stability.
process decision program chart A tool that is used to help brainstorm possible contingencies or problems associated with the implementation of some program or improvement.
process improvement teams Teams that are involved in identifying opportunities for improving select processes in a firm.
producer's risk The risk associated with rejecting a lot of material that has acceptable quality.
product A tangible good that is produced for a customer.
product-based The context of Garvin's quality dimensions.
product benchmarking A type of benchmarking that firms employ when designing new products or upgrades to current products.
product data management A method for gathering and evaluating product-related data.
product design and evaluation Activities that include the definition of the product architecture and the design, production, and testing of a system (including its subassemblies) for production.
product design engineering A form of engineering that involves activities associated with concept development, needs specification, final specification, and final design of a product.

product idea generation The process of generating product ideas from external and internal sources.
product liability The risk a manufacturer assumes when there is a chance that a consumer could be injured by the manufacturer's product.
product marketing and distribution preparation The process of developing the marketing-related activities associated with a product or service.
product manufacture, delivery, and use Stages of the supply chain.
product traceability The ability to trace a component part of a product back to its original manufacturer.
productivity ratios Ratios that are used in measuring the extent to which a firm effectively uses its resources.
profound organizational learning Quality-based learning that occurs as people discover the causes of errors, defects, and poor customer service in a firm.
project charter A document showing the purposes, participants, goals, and authorizations for a project.
prototyping An iterative approach to design in which a series of mock-ups or models are developed until the customer and the designer come to agreement as to the final design.
Pugh matrix A method of concept selection used to identify conflicting requirements and to prioritize design tradeoff.
QS 9000 A supplier development program developed by a Chrysler/Ford/General Motors supplier requirement task force. The purpose of QS 9000 is to provide a common standard and a set of procedures for the suppliers of the three companies.
quality assurance Those activities associated with assuring the quality of a product or service.
quality at the source A method of process control whereby each worker is responsible for his or her own work and performs needed inspections at each stage of the process.
quality circles Brainstorming sessions involving employees of a firm whose goal is improving processes and process capability.
quality control The process relating to gathering process data and analyzing the data to determine whether the process exhibits nonrandom variation.
quality dimensions Aspects of quality that help to better define what quality is. These include perceived quality, conformance, reliability, durability, and so on.
quality function deployment (QFD) QFD involves developing a matrix that includes customer preferences and product attributes. A QFD matrix allows a firm to quantitatively analyze the relationship between customer needs and design attributes.
quality improvement system The result of the interactions between the various components that defines the quality policy in a firm.
quality loss function (QLF) A function that determines economic penalties that the customer incurs as a result of purchasing a nonconforming product.
quality management The management processes that overarch and tie together quality control and quality assurance activities.
quality maturity analysis (QMA) A study in which a firm's level of maturity relating to quality practices is assessed.
quality measures Ratios that are used to measure a firm's performance in the area of quality management.
***R* chart** A variables chart that monitors the dispersion of a process.
random variation Variation that is uncontrollable.
reactive customer-driven quality (RCDQ) A state that is characterized by a supplier "reacting" to the quality expectations of a customer rather than proactively anticipating customer needs and expectations.
readiness Used in a leadership context, the term refers to the extent to which a follower has the ability and willingness to accomplish a specific task.
ready-fire-aim A method that focuses on getting new technology to market and then determining how to sell the products.
recall procedures Steps for taking defective products from market. For example, Tylenol and Firestone Wilderness AT tires used these procedures to recall their products.

redundancy A technique for avoiding failure by putting backup systems in place that can take over if a primary system fails. For example, many redundant systems are used on the space shuttle to protect the crew if a primary system fails.

reengineering (1) A method for making rapid, radical changes to a company's organization and processes; (2) Taking apart a competitor's products to see how they are designed and then designing similar products.

relationship management A method for developing long-term associations with customers.

reliability Propensity for failure of a product or component.

replications Number of runs of an experiment.

responsiveness A dimension of service quality that refers to the willingness of the service provider to be helpful and prompt in providing service.

reverse engineering The process of dismantling a competitor's products to understand the strengths and weaknesses of the designs.

robust design Designing such that an increase in variability will not result in defective products.

sample A part representing a whole.

sampling plan A determination of how data are to be gathered and evaluated.

scatter diagram A scatter plot used to examine the relationships between variables.

seiketsu A term that refers to standardization.

seiri A term that refers to organizing and throwing away things you don't use.

seiso A term that suggests that a highly productive workplace should be clean.

seiton A term that refers to neatness in the workplace.

selection The process of evaluating and choosing the best qualified candidate for a particular job.

self-directed work teams Work teams that have a considerable degree of autonomy.

self-direction A term that refers to providing autonomy to employees (or other recipients of training) in terms of facilitating their own training needs.

sequential or departmental approach to design An approach to design that requires product designers, marketers, process designers, and production managers to work through organizational lines of authority to perform work.

service A mix of intangibles and tangibles that are delivered to the customer.

services blueprinting A chart that depicts service processes and potential fail points in a process.

service reliability A dimension of service quality that refers to the ability of the service provider to perform the promised service dependably and accurately.

serviceability A dimension of quality that refers to a product's ease of repair.

SERVQUAL A survey instrument designed to assess service quality along five specific dimensions consisting of tangibles, reliability, responsiveness, assurance, and empathy.

shitsuke A term that refers to the discipline required to maintain the changes that have been made in a workplace.

signal factors Factors in a Taguchi experiment that are not under control of the operator. Examples include small variations in ambient temperature and variability in material dimensions.

situational leadership model A model of leadership proposed by Hersey and Blanchard that clarifies the interrelation between employee preparedness and effectiveness in leadership.

societal environment The portion of a firm's environment pertaining to cultural factors such as language, business customs, customer preferences, and patterns of communication.

soft data Data that cannot be measured or specifically quantified, such as survey data that asks respondents to provide their "opinion" about something.

sole-source filters External validation measures of quality programs such as the Baldrige criteria and ISO 9000.

sole sourcing Using only one supplier for a single component.

stability The likelihood a process will be random.

statistical process control (SPC) A technique that is concerned with monitoring process capability and process stability.

statistical thinking Deming's concept relating to data-based decision making.
storming The second stage of team development, in which the team begins to get to know each other but agreements have not been made to facilitate smooth interaction among team members.
strategic benchmarking A type of benchmarking that involves observing how others compete. This type of benchmarking typically involves target firms that have been identified as "world class."
strategic partnership An association between two firms by which they agree to work together to achieve a strategic goal. This is often associated with long-term supplier-customer relationships.
strategy (1) The art of planning military operations; (2) What a firm does; (3) A firm's long-term plan for attaining objectives.
stretch target A challenging goal or objective requiring significant effort to achieve.
structural measures Measures that include objectives, policies, and procedures that are followed by a firm.
superordinate goals Goals that transcend individual needs to reflect group objectives.
supplier audit The auditing portion of supplier development programs.
supplier certification or qualification programs Programs designed to certify suppliers as acceptable for a particular customer.
supplier development programs Training and development programs provided by firms to their suppliers.
supplier evaluation A tool used by many firms to differentiate and discriminate among suppliers. Supplier evaluations often involve report cards where potential suppliers are rated based on different criteria such as quality, technical capability, or ability to meet schedule demands.
supplier partnering A term used to characterized the relationship between suppliers and customers when a high degree of linkages and interdependencies exist.
supply chain A network of facilities that procures raw materials, transforms them into intermediate subassemblies and final products, and then delivers the products to customers through a distribution system.
surveying Generating a list of strengths and weaknesses in a firm in generic internal assessment.
system reliability The probability that components in a system will perform their intended function over a specified period of time.
systems view A management viewpoint that focuses on the interactions between the various components (i.e., people, policies, machines, processes, and products) that combine to produce a product or service. The systems view focuses management on the system as the cause of quality problems.
Taguchi method An approach to quality management developed by Dr. Genichi Taguchi in 1980. The Taguchi method provides: (1) a basis for determining the functional relationship between controllable product or service design factors and the outcomes of a process, (2) a method for adjusting the mean of a process by optimizing controllable variables, and (3) a procedure for examining the relationship between random noise in the process and product or service variability.
tangibles A dimension of service quality that refers to the physical appearance of the service facility, the equipment, the personnel, and the communications material.
target firm The firm that is being studied or benchmarked against.
task environment The portion of a firm's environment pertaining to structural issues such as the skill levels of employees, remuneration policies, technology, and the nature of government agencies.
task needs assessment The process of assessing the skills that are needed within a firm.
team A group of individuals working to achieve a goal with activities requiring close coordination.
team building A term that describes the process of identifying roles for team members and helping the team members succeed in their roles.
teamware Computer software that is used in making group decisions.

technology feasibility statement A feasibility statement used in the design process to assess a variety of issues such as necessary parameters for performance, manufacturing imperatives, limitations in the physics of materials, and conditions for quality testing the product.

technology selection for product development The process of selecting materials and technologies that provide the best performance for the customer at an acceptable cost.

360-degree evaluation A method for evaluating performance with input from supervisors, peers, and employees.

three spheres of quality Quality management, assurance, and control.

three Ts The task, treatment, and tangibles in service design.

tiger teams Teams with a specific defined goal and a short time frame to attain the goal.

tolerance design The act of determining the amount of allowable variability around parameters.

total quality human resources management (TQHRM) An approach to human resources management that involves many of the concepts of quality management. The primary purpose of this approach is to provide employees a supportive and empowered work environment.

training needs analysis The process of identifying organizational needs in terms of capabilities, task needs assessment in terms of skill sets that are needed within the firm, and individual needs analysis to determine how employee skills fit with company needs.

training needs assessment A process for gathering organizational data relative to finding areas where training is most needed.

training program design A term that describes the process of tailoring a course or set of courses to meet the needs of a company.

trait dimension A view of leadership that states that leadership potential is related to the "traits" of an individual, such as height.

transcendent A definition of quality that states that quality is something we all recognize but we cannot verbally define.

tree diagram A tool used to identify the steps needed to address a particular problem.

***u* chart** A chart used to monitor the number of defects in sequential production lots.

undeveloped events A term used in fault tree analysis. Undeveloped events are faults that do not have a significant consequence or are not expanded because there is not sufficient information available.

Unified Theory for Services Management A set of propositions relative to managing services.

user-based A definition of service or product quality that is customer centered.

value-added A customer-based perspective on quality that is used by services, manufacturing, and public sector organizations. The concept of value-added involves a subjective assessment of the efficacy of every step in the process for the customer.

value-based A definition of quality relating to the social benefit from a product or service.

value chain A tool, developed by Michael Porter, that decomposes a firm into its core activities.

value chain activities Porter's chain of activities, including inbound logistics, production, and outbound logistics.

value system A network of value chains.

variable A measurement.

variety The range of product and service choices offered to customers.

vertical deployment A term denoting that all of the levels of the management of a firm are involved in the firm's quality efforts.

virtual teams Teams that do not physically meet but are linked together through intranets and the Internet.

voice of the customer A term that refers to the wants, opinions, perceptions, and desires of the customer.

whack-a-mole A novel term that describes the process of solving a problem only to have another problem surface.

working prototype A functioning mock-up or model of a product.
***X* chart** A chart used to monitor the mean of a process for population values.
$\bar{\bar{x}}$ **chart** A chart that monitors the mean of a process for variables.