

Pioneers

W. Edwards Deming

- Organizations can increase quality and reduce costs by practicing continuous process improvement and by thinking of manufacturing as a system, not as bits and pieces.
- The Plan-Do-Check-Act (PDCA) cycle was proposed by Deming which uses Six Sigma processes
- Total Quality Management (TQM) - Fourteen points of management that call for awareness of quality in all processes.
- Had defined the theory of Seven Deadly Diseases
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Joseph M. Juran

- Applied the Pareto principle to quality issues (80% of the problems are caused by 20% of the causes)
- Developed "Juran's Trilogy": quality planning, quality control, and quality improvement.
- Believed cultural resistance or resistance to change is the primary reason for quality problems.
- Six Sigma is based on statistical work by Joseph Juran (Six sigma = 3.4 defects per million)
- Quality - Fitness of Use

Philip B. Crosby

- Crosby's response to the quality crisis was the principle of Doing It Right the First Time (DIRFT). Considered the following to be the Absolutes of Quality Management:
 - Quality is conformance to requirements
 - Defect prevention is preferable to quality inspection and correction
 - Zero Defects is the quality standard
 - Quality is measured in monetary terms – the Price of Nonconformance (PONC)

Genichi Taguchi

- Innovated Design of experiment
- Developed the concept of loss functions according to which, as variation for the target increases, losses will also increase. His rule for manufacturing is based on the concept that the best opportunity to eliminate variation is during the design of a product and its manufacturing process. This concept of loss function can be used to measure financial loss to society resulting from the poor quality of a product.
- Off-line quality control

Malcolm Baldrige

An award (not name) established by the U.S. Congress to promote quality awareness. And also to a quality improvement model

Kaizen

Continuous improvement. Processes are improved, mastered, and then further improvement is identified. Includes quality circles as a group-oriented means of developing ideas.

PDCA

Similar to Kaizen, an improvement is planned, completed, measured, and then further improvement acted upon. Invented by **Walter Shewhart** and popularized by W. E. Deming, it's a method of making small changes and measuring the impact before you make wholesale changes to a process.

PM STUDY Free Test 1

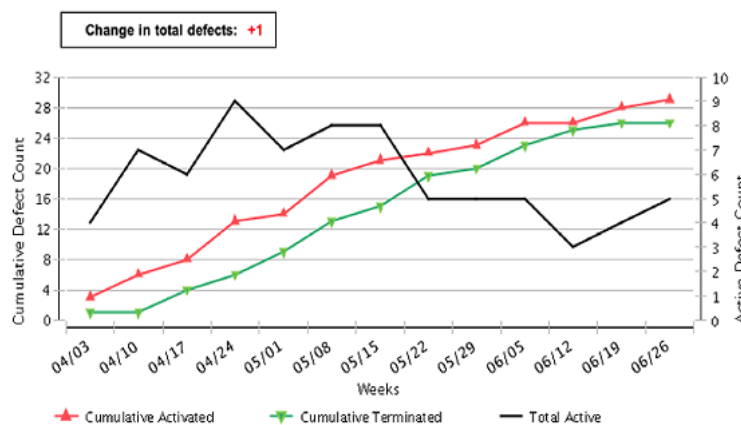
- Product analysis includes techniques such as product breakdown, systems analysis, requirements analysis, systems engineering, **value engineering**, and **value analysis**.
- **Value Engineering**: An approach used to optimize project life cycle costs, save time, increase profits, improve quality, expand market share, solve problems, and/or use resources more effectively.
- The time and material contracts are a **hybrid type** of contractual management that contain aspects of both cost-reimbursable and fixed-price contracts. (PMBOK p.364)
- **A phase end** represents a natural point to reassess the activities underway and to change or terminate the project if necessary. This point may be referred to as a **stage gate, milestone, phase review, phase gate, or kill point**.
- **Configuration management system**: A subsystem of the overall project management system. It is a collection of formal documented procedures used to apply technical and administrative direction and surveillance to: identify and document the functional and physical characteristics of a product, result, service, or component; control any changes to such characteristics; record and report each change and its implementation status; and support the audit of the products, results, or components to verify conformance to requirements. It includes the documentation, tracking systems, and defined approval levels necessary for authorizing and controlling changes.
- There are multiple classification models used for stakeholders analysis, such as:
 - **Power/interest** grid, grouping the stakeholders based on their level of authority (**power**) and their level of concern (**interest**) regarding the project outcomes;
 - **Power/influence** grid, grouping the stakeholders based on their level of authority (**power**) and their active **involvement (influence)** in the project;
 - **Influence/impact** grid, grouping the stakeholders based on their active **involvement (influence)** in the project and their ability to effect changes to the project's planning or execution (**impact**); and
 - **Salience model**, describing classes of stakeholders based on their **power** (ability to impose their will), **urgency** (need for immediate attention), and **legitimacy** (their **involvement** is appropriate).
- Preparing a financial plan requires both project management and industry specific skills.
- **Correspondence**: Contract terms and conditions often require written documentation of certain aspects of buyer/seller communications, such as the need for warnings of unsatisfactory performance and requests for contract changes or clarification. This can include the reported results of buyer audits and inspections that indicate weaknesses the seller needs to correct.
- Roles that undermine project management implementation
 - **The Aggressor**
 - Criticizes everybody and everything on project management
 - Deflates the status and ego of other team members
 - Always acts aggressively
 - **The Dominator**
 - Always tries to take over
 - Professes to know everything about project management

- Tries to manipulate people
 - Will challenge those in charge for a leadership role
- **The Devil's Advocate**
 - Finds fault in all areas of project management
 - Refuses to support project management unless threatened
 - Acts more of a devil than an advocate
- **Attribute sampling and Variable sampling**
 - Attribute sampling indicates that the result either conforms or does not conform.
 - Variables sampling indicates the result rated on a continuous scale.
 - Attribute sampling and variables sampling are done during Control Quality.
- **Influence diagrams:** These are graphical representations of situations showing causal influences, time ordering of events, and other relationships among variables and outcomes.
- If the tasks are not on the critical path of the project, we cannot determine the PERT estimate for the duration of the project. The PERT estimate can only be calculated for the critical path of the project.
- The project manager usually follows different leadership styles as listed below:
 - **Autocratic:** Makes decisions himself/herself; allows team members little involvement and discussion before a decision is made.
 - **Democratic:** Allows team to discuss issues and reach decisions, although still guides and advises.
 - **Directing:** Instruct people what tasks will be performed and when and how they should be performed.
 - **Laissez Faire:** Does not interfere; team is left unsupervised which may lead to anarchy.
 - **Delegating:** Delegates to team members, particularly if competent to handle tasks.
 - **Coaching:** Issues instructions and then supports and monitors.
 - **Discussing:** Two-way communication and discussion with team members.
 - **Facilitating:** Coordinates inputs from several sources before making a decision.
 - **Supportive:** Provides positive assistance and encouragement; maintains and presents a positive outlook during times of uncertainty; listens and encourages.
 - **Participatory:** Involve others; same as Democratic style.
 - **Task-Oriented:** Enforces task completion by deadlines.
 - **Team-Based:** Emphasizes teamwork and working well together.
 - **Assertive:** Confronts issues and displays confidence; establishes authority with respect.
- **Management by objectives** is a systems approach for aligning project goals with the goals of organization, other subunits of the organization, and individuals.
- Uncontrolled expansion to product or project scope without adjustments to time, cost, and resources is referred to as **scope creep**.
- People exhibit greatest resistance to change than technology, environment and business requirements.
- **Expertise** of the project manager is the most important factor that gets him support from the project personnel.
- Communicating has many potential dimensions:
 - **Internal** (within the project) and **external** (customer, vendors, other projects, organizations, the public);
 - **Formal** (reports, minutes, briefings) and **informal** (emails, memos, ad-hoc discussions);
 - **Vertical** (up and down the organization) and **horizontal** (with peers);
 - **Official** (newsletters, annual reports) and **unofficial** (off the record communications); and
 - **Written** and **oral**, and **verbal** (voice inflections) and **nonverbal** (body language).

- Project closure documents would be completed, before the project team is released, and before other Organizational Process Assets are updated.

Head First - Mock exam 200 questions

- **Run Charts:** a run chart is a line graph that shows data points over time. Run charts are helpful in identifying trends and predicting future performance. Run charts are similar to control charts, plotting data results over time, however there are no defined control limits. Run charts tell you about trends in your project by showing you what your data looks like as a line chart. If the line in the chart were the number of defects found in your product through each quality activity, that would tell you that things were getting worse as your project progressed. In a run chart, you are looking for trends in the data over time. Run charts help you answer questions about trends in your defect rate.: Does it seem to be going up or down as the project progresses? Is there a steady climb or a spike when a particular activity occurs?



- The **RACI matrix** shows roles and responsibilities on your project. RACI stands for Responsible, Accountable, Consult, Inform. The RACI matrix is a table that shows people and how they relate to the work that is being done. NOT HR Management Plan (Q6)
- Just remember: a defect is any deliverable that does not meet its requirements.
- The most effective type of power for a project manager is **Expert power**. That's when your team respects you because they know that you know what you are talking about.
- The **records management system** is one of the tools that you use in the Close Procurements process. It's what you use to store your contracts and any related documents, so that future project managers can refer to them in future projects.
- Project managers must have a “zero tolerance” policy on racist remarks, or any other cultural insensitivity. If there is an incident involving racism, sexism or any other kind of discrimination,

your top priority is to correct that. Every company has a policy that guides how you handle this kind of situation, so a question involving racism will usually involve the company's policy or HR department.

- Any time you do coaching, mentoring, training or anything else to help others learn about project management, you're contributing to the project management body of knowledge.
- The correct order of actions that you take during the Closing processes: Get formal acceptance, write lessons learned, release the team, close the contract
- Make sure you discuss the ground rules with the team during the kick-off meeting!
- Ishikawa diagrams - or fishbone diagrams - are an important tool that's used in Kaizen.
- The **configuration management system** is there to be sure that everybody on the team has the most updated version of all of the project documents. Whenever a project document is changed, it is checked into the Configuration Management System so that everyone knows where to go to get the right one. The "document repository" sounded good, but you won't find that term anywhere in the PMBOK® Guide.. Watch out for made-up terms on the exam!
- The baselines and sub-plans are all part of the Project Management Plan, so they don't fall under the heading of "project documents".
- The scope baseline is not a particularly useful thing once a project's done. A baseline is what you use to measure any changes to the project - whenever there's a change, you always want to compare it against the baseline. But once the project is done, the baseline isn't necessary anymore.
- **Risk Auditing** is a TTs of Control Risks process. It is performed to assess the overall process of risk management on the project as well as the effectiveness of specific risk responses that have been implemented. The auditing process is documented in the risk management plan.
- **Risk Breakdown Structure** is created during Plan Risk Management process. **Risk Categorization** is a TT of Qualitative Risk Analysis.
- **Plan-Do-Check-Act**: Invented by Walter Shewhart and popularized by W. E. Deming, it's a method of making small changes and measuring the impact before you make wholesale changes to a process.
- **The Staffing Management** plan includes a "Reward and Recognition" section that describes how you'll reward your team for good performance. It also contains training requirements and release criteria. There's no such thing as a "Reward and Recognition Plan" in the PMBOK® Guide.
- Once you've closed out a procurement, it's important to conduct a **procurement audit**. This is where you go over everything that happened on the project to figure out the lessons learned, and look for anything that went right or wrong. However, consideration - or payment - is not part of an audit (unless there was a problem processing or paying it). That's why the Payment System is

one of the Control Contracts' tools and techniques, and not part of Close Procurements - you can't close out the contract until it's been paid.

- The PMP Code of Professional Conduct says that you're not allowed to accept any kind of gift, not even if it's after the project has finished. That would be the same thing as taking a bribe.
- Conflict resolution technique **Withdrawal** happens when someone gives up and walks away from the problem, usually because they're frustrated or disgusted. If you see a team member doing this, it's a warning sign that something's wrong.
- **Product scope** means the features and functions of the product or service being built. **Project scope** means the work that's needed to build the product.
- Anytime you have any communication having to do with the contract, it's always **formal written** communication.
- When you're performing the **Close Procurements** process, you're closing out work done by a seller for a contract. To do that, you do a few things: you verify that all of the work and deliverables are acceptable, you finalize any open claims, and in case of early termination, you follow the termination clause in the contract. On the other hand, when you're performing the **Close Project or Phase** process, you're finalizing all of the various activities that you do across all of the process groups, and you're also verifying that the work and deliverables are complete. **Procurement closure means verifying that the project is complete or terminated; Close Project or Phase is the process of tying up all of the activities for every management process group**
- The most expensive defects are the ones introduced when the product is being designed.
- It is the project manager's job to make sure the impact of the change on the triple constraint (time, scope and cost) is evaluated, but that impact analysis should happen BEFORE the change request is sent to the CCB.
- It's important to know that **resources, schedules and priorities** cause **50%** of project problems and conflicts.
- Your risk register is one of the most important project management tools that you have - that's why you review it and go over your risks at every meeting. Any time you come across a new risk, the first thing you should do is document it in the risk register. It's really easy to lose track of risks, especially when you're running a big project. By adding every risk to the register, you make sure that you don't forget about any of them.
- **Peter Principle = Halo effect**

Exam Central - Random Test 1

- **Referent** power is based upon respect. **Legitimate** power is based upon position. **Expert** power is based upon knowledge and **Punishment** is based upon the threats.
- **RACI** is type of **Responsibility Assignment Matrix**
- **Performance reviews** (TT of Control Costs, Control Schedules) are held to assess project status or progress. **Procurement performance review** (TT of Control Procurements) is a structured review of the seller's progress to deliver project scope and quality, within cost and on schedule, as compared to the contract.
- **'Inspections** and **Audits'** are TTs of Control Procurements.
- **Inspection** is sometimes called **reviews**, **product reviews**, **audits** and **walkthroughs**.
- The **change control system** is documented in the project management plan.
- **Technical skills** are considered "**hard**" skills. People skills and social skills are referred to as "**soft**" skills.
- **Colocation**, also known as **Tight Matrix**, enhances communication and a sense of community. Less travel, Reduced costs and Use of more skilled resources are advantages of a **Virtual Team**.
- **Expectancy Theory** is a motivation theory from **Victor H. Vroom** stating Employees are motivated when they believe the following:
 - Putting in more effort will yield better job performance.
 - Better job performance will lead to organizational rewards, such as an increase in salary or benefits.
 - These predicted organizational rewards are valued by the employee.
- **Fred Fiedler's Contingency Theory** states that effectiveness of a leader's management style is dependent upon the situation.
- **Confrontation** is the most preferred method, while **withdrawal** would be the least preferred.
- **Precision** – Consistency is value of repeated measurements having fine cluster and little scatter. **Accuracy** is a correctness of how close is measured value to true value.

PM Fast Track

- Product acceptance criteria is included in the requirements documentation, not the project charter.
- The project sponsor approves the project charter, not the stakeholders. Stakeholders do, however, help in determining project constraints and product deliverables.
- Not having a project charter wastes company time, human resources, and money.
- **Procurement Performance Reviews:** (TT of Control Procurements) A procurement performance review is a structured review of the seller's progress to deliver project scope and quality, within cost and on schedule, as compared to the contract. It can include a review of seller-prepared documentation and buyer inspections, as well as quality audits conducted during seller's execution of the work. The objective of a performance review is to identify performance successes or failures, progress with respect to the procurement statement of work, and contract noncompliance, which allow the buyer to quantify the seller's demonstrated ability or inability to perform work. Such reviews may take place as a part of project status reviews, which would include key suppliers.
- **Inspections and Audits:** (TT of Control Procurements) Inspections and audits required by the buyer and supported by the seller, as specified in the procurement contract, can be conducted during execution of the project to verify compliance in the seller's work processes or deliverables. If authorized by contract, some inspection and audit teams can include buyer procurement personnel.
- **Procurement Audits:** (TTs of Close Procurements) A procurement audit is a structured review of the procurement process originating from the Plan Procurement Management process through Control Procurements. The objective of a procurement audit is to identify successes and failures that warrant recognition in the preparation or administration of other procurement contracts on the project, or on other projects within the performing organization.
- Differences between Procurement Performance Review, Inspection and Audit, Procurement Audit <http://pmzilla.com/difference-between-procurement-performance-review-inspection-and-audit-and-procurement-audit#comment-42072>
- **Scope validation**, which occurs in the Validate Scope process, focuses on customer acceptance of a deliverable. **Product validation**, which occurs during project closing, is focused on making sure all the work is completed satisfactorily.
- Lessons learned are best completed by stakeholders (not the project team), as their input is critical for collecting all the lessons learned on each project. The term "stakeholders" includes all the other groups including Project team.

Christopher Scordo - Mock 1

- The **configuration management activities** included in the Perform Integrated Change Control process are **Configuration Identification, Configuration Status Accounting, Configuration Verification and Auditing**. [PMBOK 5th edition, Page 96, 97] [Project Integration Management]
- **The Time and Material (T&M)** contract will allow the contract to change as the project scope changes. [PMBOK 5th edition, Page 364]

Christopher Scordo - Mock 13

- **Resource leveling** is a schedule network analysis technique. It is applied to a schedule that has already been analyzed by the **critical path method**.
- It is impossible to build an exhaustive checklist. The lowest level of the Risk Breakdown Structure (RBS) CAN be used as a risk checklist. Risk **checklists** should be reviewed during project closure.
- **Colocation** is also referred to as "**tight matrix**".
- In general, some authority within the project management team or an external organization would approve or reject the change request. However, on many projects the project manager is given authority to approve certain types of change requests.
- The WBS is a deliverable-oriented decomposition of all the work to be done by the project team to accomplish project objectives. It organizes and defines the total scope of the project. Hence it includes **product work**, **project work** and the **project management work** required to complete the project.

Christopher Scordo - Mock 15

- **Cost of Quality** refers to the total cost of the **conformance** work and the **nonconformance** work that should be done as a compensatory effort. Cost of quality includes all costs incurred over the life of the product by investment in preventing nonconformance to requirements, appraising the product or service for conformance to requirements, and failing to meet requirements (rework). Failure costs are often categorized into internal (found by the project) and external (found by the customer). Failure costs are also called **cost of poor quality**.

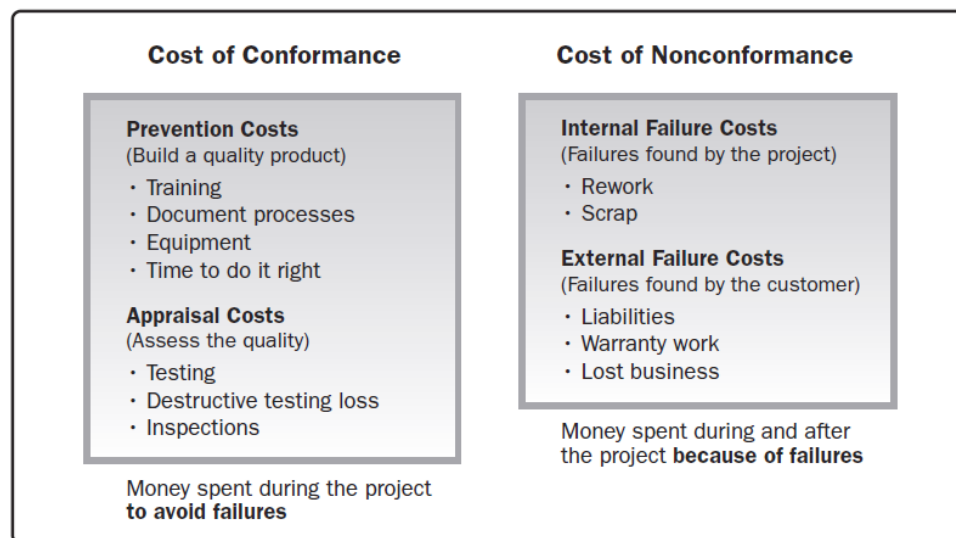


Figure 8-5. Cost of Quality

- The **quality management plan** may be *formal or informal, highly detailed or broadly framed*. The style and detail is determined by the requirements of the project as defined by the project management team.
- The **statement of work (SOW)** is a narrative description of products or services to be delivered by the project. For an external project, the SOW may be received as part of a bid document such

as the request for proposal, request for information, request for bid or as part of a contract. It is usually not part of the business case.

- The project manager and the project management team are responsible for managing the tradeoffs involved to deliver the required level of **quality** and **grade**.
- **Corrective** and **preventive actions** do not normally affect the project baselines, only the performance against the baselines.
- **Prevention** - keeping errors out of the process and **Inspection** - keeping errors out of the hands of the customer.
- **Attribute sampling** - the result either conforms or does not conform and **Variables sampling** - the result is rated on a continuous scale that measures the degree of conformity.
- **Tolerances** - specified range of acceptable results and **Control limits** - that identify the boundaries of common variation in a statistically stable process or process performance.
- **Funding Limit Reconciliation**: The process of comparing the planned expenditure of project funds against any limits on the commitment of funds for the project to identify any variances between the funding limits and the planned expenditures.

Christopher Scordo - Mock 18

- Some examples of **Soft Skills** are communication skills, **emotional intelligence**, conflict resolution, negotiation, influence, team building, and group facilitation.

PMPForSure - Free Test 1 - 100Q

- It is critical for project success to identify the stakeholders early in the project, and to analyze their levels of **interest, expectations, importance and influence**.
- **Procurement Documentation** - To close the contract, all procurement documentation is collected, indexed, and filed. Information on contract schedule, scope, quality, and cost performance along with all contract change documentation, payment records, and inspection results are cataloged. This information can be used for lessons learned information and as a basis for evaluating contractors for future contracts.
- The **Close Procurements** process also involves administrative activities such as *finalizing open claims, updating records to reflect final results and archiving such information for future use*. This is **NOT** done during Close Project or Phase.
- **Control charts** are used to determine whether or not a process is stable or has predictable performance. Upper and lower specification limits are based on requirements of the contract. They reflect the maximum and minimum values allowed. There may be penalties associated with exceeding the specification limits. Upper and lower control limits are set by the project manager and appropriate stakeholders to reflect the points at which corrective action will be taken to prevent exceeding specification limits.
- Identifying **external dependencies** are done in **Sequence Activities**.
- You are a project manager and you have made one of your good resource as "Single Point of Contact" for the customer. This is an example of **Ground Rules**.
- **Voice of the customer** is a non-proprietary approach to quality management and is used to elicit stated as well as unstated customer needs (quality and requirements). This technique translates the customer requirements into technical requirements.
- The project manager needs to get approval before spending **management reserve**.

- Alternative schedules, such as best-case or worst-case, not resource-leveled, or resource-leveled, with or without imposed dates are documented in **Schedule Data** - output of Develop Schedule.

PMPSure - Paid Test 1 - 100Q

- **Stakeholders Risk Tolerances** are documented in Enterprise Environmental Factors which is an input to Manage and Direct Projects.
- **Control Procurements** - The key benefit of this process is that it ensures that both the seller's and buyer's performance meets procurement requirements according to the terms of the legal agreement.
- **Project Performance Appraisals**: Objectives for conducting performance appraisals during the course of a project can include clarification of roles and responsibilities, constructive feedback to team members, discovery of unknown or unresolved issues, development of individual training plans, and the establishment of specific goals for future time periods. A TT of Manage Project Team.
- **Project schedule network diagrams** - These diagrams can be presented in the activity-on-node diagram format or presented in a time-scaled schedule network diagram format that is sometimes called a **logic bar chart**. Its part of the Outputs to the Develop Schedule process.
- **Escalation process** is part of the Communications Management Plan that is an Input to the Manage Stakeholder Engagement process.
- The **assumptions** are analyzed to understand high level risks. High level Risks derived from assumptions are documented in Project Charter.

PMZilla Tough 30 Questions

- Critical Chain Project Management (CCPM) is a method of planning and managing projects that puts more emphasis on the resources required to execute project tasks
- **Triggers** are sometimes called **risk symptoms** or **warning signs**
- **Global literacy** is axiom used for ability to succeed in cross cultural environment.
- **Whistle blowing** is a term used to define an employee's decision to disclose information on unethical, immoral or illegal actions at work to an authority.
- Risk related contract decisions include agreements including insurance, bonding, and services.
- Team members operate best when their individual levels of authority matches with their individual responsibilities (NOT Competency).
- The **project manager** and the **project management team** are responsible for determining and delivering the required levels of both quality and grade.
- **Risk audits** examine and document the effectiveness of risk responses in dealing with identified risks and their root causes, as well as the effectiveness of the risk management process. It is TT of Control Risks process.

PMZilla Tough 200 Questions

- **Ethnocentrism** refers to belief that one's **culture** is superior to other cultures.
- **Sociocentrism** refers to belief that one's **social group** is superior to others.
- **Elapsed time** includes non-working days in a given work week.
- **Critical Path formula** always starts from **0 day** (not 1st day)
- **Project reports:** Formal and informal project reports describe project status and include lessons learned, issue logs, project closure reports, and outputs from other Knowledge Areas.
- **Project records:** Project records may include correspondence, memos, meeting minutes, and other documents describing the project. This information should, to the extent possible and appropriate, be maintained in an organized manner. Project team members can also maintain records in a **project notebook** or **register**, which could be physical or electronic.
- **Project files** is a place where Project Records, Project Reports.
- **Project Notebook:** project records can be in form of Project Notebook.
- **Lessons learned documentation:** Documentation includes the causes of issues, reasoning behind the corrective action chosen, and other types of lessons learned about communications management. Lessons learned need to be documented and distributed so that it becomes part of the historical database for both the project and the performing organization.
- **Procurement file:** A complete set of indexed **contract documentation**, including the closed contract, is prepared for inclusion with the final project files. This is part of OPA Updates during procurement closure.
- **Contract Documentation** includes payment records, supporting schedule, warranties but not procurement audit results.
- **Procurement documentation** may include the procurement contract with all supporting schedules, requested unapproved contract changes, and approved change requests. Procurement documentation also includes any seller-developed technical documentation and other work performance information, such as deliverables, seller performance reports and warranties, financial documents including invoices and payment records, and the results of contract-related inspections.
- For your project's **Contract Closure (NOT Procurement Closure)** you should look into Contract terms and conditions. Normally there is a section around Termination and closure and what needs to happen before closure.
- **Management by Projects:** its related to adoption of an organizational culture that is close to project management culture.
- **Teaming Agreement** is a contractual agreement between two or more parties forming a partnership or working jointly on a project. They are often used when two or more vendors form a partnership to meet common business objectives e.g a System Integrator and software product vendor bidding for a RFP. They cover various aspects like project scope, roles of each involved party, competition requirements and criteria and any other items relevant to the specific engagement.
- For repetitive processes **control limits** are **+/- 3 Sigma**
- **Point of Total Assumption (PTA)** : is also known as '**most pessimistic cost**' and applies to Fixed Price plus Incentive Fee (**FPIF**) Contracts.
- **Joint application design/development (JAD)** sessions are used in the software development industry. These facilitated sessions focus on bringing business subject matter experts and the development team together to improve the software development process.
- **QFD:** In the manufacturing industry, **quality function deployment (QFD)** is another example of a facilitated workshop technique that helps determine critical characteristics for new product development. QFD starts by collecting customer needs, also known as **Voice of the Customer (VOC)**. These needs are then objectively sorted and prioritized, and goals are set for achieving them.

- Completion of the **Project Scope** is measured against the project management plan.
- Completion of the **Product Scope** is measured against the product requirements.
- **Product Scope** is the features and functions that characterize a product, service or result.
- **DATA Date**. A point in time when the status of the project is recorded.
- **PERT** is used when you focus on meeting schedules with flexibility on cost. Useful with high degree of uncertainty in individual activity estimates.
- **Variance Analysis**: Variance analysis is a technique for determining the cause and degree of difference between the baseline and actual performance (and finding deviations). Project performance measurements are used to assess the magnitude of variation from the original scope baseline. Important aspects of project scope control include determining the cause and degree of variance relative to the scope baseline and deciding whether corrective or preventive action is required.
- In some qualitative analyses, the assessment of **risk urgency** is combined with the **risk ranking** that is determined from the **probability and impact matrix** to give a final **risk severity rating**.
- Read **Probability Distributions**.

Andy Crowe - Final Exam 200Q

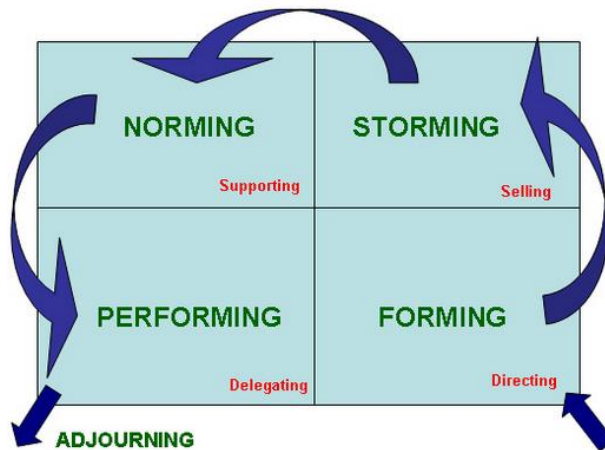
- **The Standard Deviation** measures how diverse the population is.
- **The Project Sponsor** functions much like a customer internal to the organization. The sponsor does NOT prioritize projects.
- **Communication** is important at all points in the project, but it is critical during integration.
- **Project** has never been done by this organization before.
- As a part of **integration management**, project manager must make tradeoffs between competing project objectives.
- **Team Performance Assessments**: assess team performance as a whole done during Develop Project Team
- **Project Performance Appraisals**: assess individual performance done during Manage Project Team (TT)
- **Conflict Management** is a TT of Manage Project Team. But **conflict resolution** is also part of Interpersonal Skills - TT of Develop Project Team, Manage Project Team as well as a part of Facilitation Techniques.
- **Organization Chart** is part of HR Management Plan.
- Late Finish of activity is a Total Float of activity - a finish date latest the activity can finish without delaying the project.

Oliver Lehmann - 175Q

- **Hofstede's cultural dimensions theory**
 - The five values found by Geert Hofstede are:
 1. Power Distance
 2. Uncertainty Avoidance
 3. Masculinity vs. Femininity
 4. Individualism vs. Collectivism
 5. Long vs. Short Term Orientation

More info: http://www.mindtools.com/pages/article/newLDR_66.htm

- **Stretch Assignment** is a project or task given to employees which is beyond their current knowledge or skills level in order to “stretch” employees developmentally. The stretch assignment challenges employees by placing them into uncomfortable situations in order to learn and grow.
- **Flowcharts** may prove useful in understanding and estimating the cost of quality in a process. This is obtained by using the workflow branching logic and associated relative frequencies to estimate expected monetary value for the conformance and non-conformance work required to deliver the expected conforming output.
- Motivators can be **Extrinsic** or **Intrinsic**. The recognition and rewards tool and techniques are example of Extrinsic Motivators. Intrinsic motivators are specific to individual. Solving puzzle, or going to train in sport are interesting for individual.
- **5 Whys** is an iterative question-asking technique used to explore the cause-and-effect relationships underlying a particular problem. The primary goal of the technique is to determine the root cause of a defect or problem.
- Example of **Forecasting methods**: time series, scenario building, simulation, etc.
- **Time Series Methods**: This forecasting method uses historical data to predict future performance. Earned value, moving average, extrapolation, trend estimation, linear prediction, and growth curve are some of the methods the PMBOK® Guide states fall into this category.
- **Situational Continuum Leadership**: According to the Situational Leadership model developed by Paul Hersey and Ken Blanchard, there are 4 leadership styles namely
 - directing/telling
 - coaching/selling (manager define the work)
 - supporting/participating (subordinate define the work)
 - delegating according to maturity/capability of the subordinate



- A **quality metric** describes a project or product attribute and how it will be measured. Some examples of quality metrics include: **function points**, **mean time between failure (MTBF)**, and **mean time to repair (MTTR)**.
- **Path convergence** also known as **Sinks**.
- Categories of **cultures** that Managers should master:
 - a. National Culture
 - b. Organizational Culture
 - c. Functional Culture

- When control charts are used, **outliers** are singular measurements outside the bandwidth between an upper and lower control limit.

Others Sources

- **Journey To Abilene:** means that most people agree to do certain things as a group, or an organization, which they personally do not agree or believe in... just to be a team player, to save face, and/or to avoid conflict.
- **Contested Changes:** Contested changes and potential constructive changes are those requested changes where the buyer and seller cannot reach an agreement on compensation for the change or cannot agree that a change has occurred. These contested changes are variously called claims, disputes, or appeals.
- **Constructive Change:** A direction by the buyer or an action taken by the seller that the other party considers an undocumented change to the contract. Due to certain circumstances seller encounters while doing the directive change. Normally the price for such constructive changes are settled between the buyers and sellers through negotiation process, since these changes are not formally documented through a change control process.
- **Directive Changes:** A directive change is one which a buyer formally requests a seller to do a change
- In **Three-Point Estimation**, traditional **PERT** technique is **Beta Distribution**
- **Project Scope Statement** contains one basic assumption that is when estimating project costs is whether the estimates will be limited to direct project costs only or whether the estimates will also include indirect costs.
- **Forcing** (a type of conflict resolution technique) provides only a temporary solution to the problem.
- **Forward Pass:** A critical path method technique for calculating the early start and early finish dates by working forward through the schedule model from the project start date or a given point in time.
- **Backward Pass:** A critical path method technique for calculating the late start and late finish dates by working backward through the schedule model from the project end date.
- **Project schedule network diagrams** are commonly presented in the activity-on-node diagram format showing activities and relationships without a time scale, sometimes referred to as a **pure logic diagram**, or presented in a time-scaled schedule network diagram format that is sometimes called a **logic bar chart**.
- **Organizational process assets** may be grouped into two categories: (1) **processes and procedures**, and (2) **corporate knowledge base**.
- **Sunk cost** is not to be considered when deciding when to terminate a project.
- **Contract change control system** is defined in the procurement management plan but **not in the contract**.
- In procurement **unresolved claims** may be left for litigation after **Procurement closure**.
- If part of the project is procured, more formal written communication will be expected
- **Communication Context:** The situation that influences communication and includes location, background, gender, age, mood, time of day, and relationships between the communicators. Languages generally fall on a sliding scale of high to low context. Recipients of **high-context** language messages need to know the situation and environment of the message in order to understand it. Recipients of **low-context** messages understand the message as received.

- PM spends **90%** of their time on **COMMUNICATION** activities, 50% of the time is spent on communicating with the team
- 55% message thru body language, 38% thru paralingual, 7% thru words used
- **Efficient Communication**: only the required messages
- **Effective Communication**: right timing, right format, right medium
- **Enhancers to Communication**: simplicity, relevance, repetition, manageable content, summarization of key points, active listening
- **Barriers to Communication**: noise, distance, source credibility, differing perspectives, mood
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PMP Cheat Sheet - from Raja

<http://rajakannappan.blogspot.co.at/2012/04/pmp-cheat-sheet.html>

1. Project is temporary endeavor undertaken to create unique product, service or result (has defined start and end date)
2. Program is group of related projects
3. Portfolio is group of projects or programs (may or may not be dependent). They are grouped together for effective management.
4. Stakeholders are persons or organizations whose interests may be positively or negatively affected by the performance or completion of the project. Stakeholders include project team as well.
5. The stakeholders of a project typically have conflicting objectives. They have maximum influence during initial stages of the project.
6. Contingency Reserve is to cover known unknowns (known risks)
7. Management Reserve to cover unknown unknowns (unknown risks)
8. Last step in project closing is gather lessons learned and archive project info (Organization Process Assets updates) for future use
9. Choose project with high NPV (i.e high net present value)
10. Value engineering is less costly method to deliver same scope without performance degradation
11. Project sponsor issues project charter
12. Purchase order is fixed price type contract
13. Sensitivity analysis is a technique in Quantitative Risk Analysis
14. Quality audits, process analysis (includes root cause analysis) are some techniques in Perform Quality Assurance
15. Kaizen approach is Continuous improvement
16. Quality is management problem is mentioned by Deming
17. Zero defects/Do it first time is mentioned by Crosby Square - Decision node, Circle- Chance node, Triangle - end of branch.
18. Decision tree components are square - decision node, circle- chance node and triangle - end of branch.
19. Resource constrained critical path is critical chain.
20. Undocumented change to contract is constructive change.
21. Code of accounts is numbering system used to uniquely identify each component of the Work Breakdown Structure (WBS).
22. Precision is values of repeated measurements are clustered and have little cluster. Accuracy is measured value is close to true value.
23. Quality is degree to which a set of inherent characteristics fulfill requirements. Grade is category assigned to products or services that have the same functional use but different technical characteristics. Low quality is not acceptable, but low grade may be acceptable.
24. Agreement is not legally binding but a contract is legally binding.
25. Product scope means the features and functions of the product or service being built. Project scope means the work that's needed to build the product.
26. Free float is time that an activity can be delayed from it's early start date without delaying early start of any immediately following schedule activities.

27. Total float is time that an activity can be delayed from its early start date without delaying the project finish date.
28. Project scope statement contains deliverables and also the work required to create those deliverables.
29. Process is considered out of control when a data point in control chart exceeds control limit or if seven consecutive points in control chart are above or below (i.e. on one side) of the mean.
30. Staffing management plan adds time (schedule) component to Human Resource (HR) plan. It also includes rewards and recognitions, training requirements and release criteria.
31. Resource histogram is part of staffing management plan. It describes the type and quantity of resources needed over a period of time.
32. Pareto chart is type of histogram ordered by frequency of occurrence. It shows how many defects were generated by type of category of identified cause.
33. Workaround is response to negative risk event. Differs from contingency plan in that workaround is not planned in advance.
34. Control account is management control point where scope, cost and schedule are integrated and compared to the earned value for performance measurement.
35. Different types of contracts are Fixed Price, Cost-Reimbursable, Time and material.
36. Information gathering techniques used in identifying risk are Brainstorming, Interviewing, Delphi technique and root cause analysis.
37. T&M contracts are hybrid type of contractual agreements that could contain aspects of both cost-reimbursable and fixed-price type arrangements.
38. Seven basic tools of quality are Cause and Effect (Fishbone or Ishikawa) Diagrams, Control Chart, Flowcharting, Histogram, Pareto Chart, Run chart and Scatter Diagram.
39. Conflict management techniques are Withdrawing/Avoiding, Compromising, Smoothing, Forcing, Collaborating and Confronting/Problem Solving.
40. Ways to handle negative risks are Avoid, Transfer, Mitigate and Accept.
41. Ways to handle positive risks are Exploit, Share, Enhance and Accept.
42. Different stages of team development are Forming, Storming, Norming, Performing and Adjourning.
43. Maslow's hierarchy of needs from bottom to top are Physiological needs, safety needs, social needs, self esteem needs and self actualization needs.
44. Different types of power are Reward power, Coercive (penalty) power, Legitimate power, Referent power and Expert power.
45. Most effective power is Expert power.
46. Resources, schedules and priorities cause 50% of project problems and conflicts. Schedule is the biggest source of conflict.
47. Once you've closed out a procurement, it's important to conduct a procurement audit. This is where you go over everything that happened on the project to figure out the lessons learned, and look for anything that went right or wrong.
48. Gold plating is when the team adds more work to the project that was not requested by the sponsor or client. It is not scope creep.
49. The point of total assumption is the point at which the seller assumes the costs. In a firm fixed price contract, this is the point where the costs have gotten so large that the seller basically runs out of money from the contract and has to start paying the costs.
50. The room the co-located team meets in is called a war room.
51. When an issue happens, analyze impact of issue -> submit change request -> if approved, update schedule and scope baselines -> implement the change.
52. The scope baseline is made up of Project Scope Statement, WBS and the WBS Dictionary.

53. Marginal analysis - The best level of the quality is reached at the point where the incremental revenue being gained from improvements equals the incremental cost being spent to secure it.
54. A Zero Sum reward system is a win-lose recognition program. For example, with an employee of the month program there will only be one or two team members who will win the award each month. Reward programs should be more win-win.
55. Murder board is a process where a committee asks questions from project representatives as part of the project selection process.
56. Oligopoly - There are few sellers and action of one seller will have impact on other sellers' prizes.
57. Ethnocentrism refers to belief that one's culture is superior to other cultures.
58. Force majeure is a powerful and unexpected event, such as hurricane or other disaster.
59. WBS activity should be between 8 and 80 hours.
60. Every risk should have a risk owner listed in the register. That person is responsible for keeping the response plan up to date and make sure the right actions are taken if the risk does occur.