8. Process Monitoring and Measurement

8.1 Management Processes

Process management is the ensemble of activities of planning and monitoring the performance of a process. The term usually refers to the management of business processes and manufacturing processes. Business process management (BPM) and business process reengineering are interrelated, but not identical.

Process management is the application of knowledge, skills, tools, techniques and systems to define, visualize, measure, control, report and improve processes with the goal to meet customer requirements profitably. It can be differentiated from program management in that program management is concerned with managing a group of inter-dependent projects. But from another viewpoint, process management includes program management. In project management, process management is the use of a repeatable process to improve the outcome of the project. ISO 9001 promotes the process approach to managing an organization.

...promotes the adoption of a process approach when developing, implementing and improving the effectiveness of a quality management system, to enhance customer satisfaction by meeting customer requirements. Source: clause 0.2 of ISO 9001:2000.

8.2 Total Quality Training Organizations

Total Quality Management / **TQM** is an integrative philosophy of management for continuously improving the quality of products and processes.

TQM is based on the premise that the quality of products and processes is the responsibility of everyone involved with the creation or consumption of the products or services which are offered by an organization, requiring the involvement of management, workforce, suppliers, and customers, to meet or exceed customer expectations.

The TQM concept was developed based on the teachings of American management consultants, including W. Edwards Deming, Joseph M. Juran, and Armand V. Feigenbaum. Originally, these consultants had short-term success in

the United States. Managers in Japan, however, embraced their ideas enthusiastically and even named their premier annual prize for manufacturing excellence after Dr. Deming.

TQM was formalized to the level of a national standard when the <u>British Standards Institution</u> published BS 7850 in 1992.

8.3 Maintaining total quality Organizations

Total quality management can be summarized as a management system for a <u>customer-focused</u> organization that involves all employees in continual improvement. It uses strategy, data, effective communications and involvement of all level employees to integrate the quality discipline into the culture and activities of the organization.

- Customer-focused. The customer ultimately determines the level of quality. No matter what an organization does to foster quality improvement—training employees, integrating quality into the design process, upgrading computers or software, or buying new measuring tools—the customer determines whether the efforts were worthwhile or not.

- Total employee involvement. All employees participate in working toward common goals. Total employee commitment can only be obtained after fear has been driven from the workplace, when <u>empowerment</u> has occurred, and management has provided the proper environment. High-performance work systems integrate continuous improvement efforts with normal business operations. <u>Self-managed</u> work teams are one form of empowerment.

- Process-centered. A fundamental part of TQM is a focus on process thinking. A process is a series of steps that take inputs from suppliers (internal or external) and transforms them into outputs that are delivered to customers (again, either internal or external). The steps required to carry out the process are defined, and performance measures are continuously monitored in order to detect unexpected variations in the process.

- Integrated system. Although an organization may consist of many different functional specialties often organized into vertically structured departments, it is the horizontal processes interconnecting these functions that are the focus of TQM.
    - Basic processes add up to larger processes, and all processes aggregate into the business processes required for defining and

implementing strategy. Everyone must understand the <u>vision</u>, <u>mission</u>, and guiding principles as well as the quality policies, objectives, and critical processes of the organization. Business performance must be monitored and communicated continuously.

- o An integrated business system may be modeled after the <u>Baldrige Criteria for Performance Excellence</u> and/or incorporate the <u>ISO 9000</u> standards. Every organization has a unique work culture, and it is virtually impossible to achieve excellence in its products and services unless a good quality culture has been fostered where everyone works for the quality. Thus, an integrated system connects business improvement elements in an attempt to continually improve and exceed the expectations of customers, employees, and all other <u>stakeholders</u>.

- o Strategic and systematic approach. A critical part of the management of quality is the strategic and systematic approach to achieving an organization's vision, mission, and goals. This process, called strategic planning or strategic management, includes the formulation of a strategic plan that integrates quality as a core component.

- Continual improvement. A major thrust of TQM is continual process improvement. Continual improvement drives an organization to be both analytical and creative in finding ways to become more competitive and more effective at meeting stakeholder requirements and expectations.

- Fact-based <u>decision making</u>. In order to know how well an organization is performing, data on <u>performance measures</u> are necessary. TQM requires that an organization continually collect and analyze data in order to improve decision making accuracy, achieve consensus, and allow prediction based on past history.

- Communications. During times of <u>organizational change</u>, as well as part of day-to-day operation, effective communications plays a large part in maintaining <u>morale</u> and in motivating employees at all levels. Communications involve strategies, method, and <u>timeliness</u>.

These elements are considered so essential to TQM that many organizations define them, in some format, as a set of core values and principles on which the organization is to operate.

8.4 Process Management tools

Project management is about taking ideas and converting them into a planned, resourced and funded project. The project management process can be broken down in to three stages: Project Initiation, Project Control and Project Closure.

During the project initiation stage it is necessary to clearly and explicitly define what the project is intended to achieve and its scope. By defining this first, you set a benchmark for the quality of what is actually produced at the end of the project. You also determine what resources and time will be allotted to complete the project.

The project control stage is about monitoring and controlling the progress of the project. It's also about controlling the quality of the product by tracking progress through regular checkpoints and resolving issues that arise during the course of the project. The majority of the work and time spent on a project is during this stage.

The purpose of the project closure stage consists of two parts: formally closing the project and passing on any lessons that can be applied to other projects. There may be some outstanding work that needs to be done and a plan for those things should be done in this stage. There is no need to reinvent the wheel every time you do a project but you do want to become more efficient.

1. Project Management Guide
The project management guide is a step-by-step guide for proper project management. The project management guide covers the basic principles, proper framework, and appropriate processes. This guide is a PowerPoint presentation that is customizable and ideal for introducing the project management process to your team. Read more.

2. Introduction to Projection Management Workbook
The introduction to project management workbook is a comprehensive workbook that is perfect for someone who has a requirement to be managers of projects as part of their organizational roles. The workbook serves as a crash course to project management with training materials to help you appreciate and be familiar with basic concepts of project management, to evaluate the appropriateness of a project management approach to specific activities, and to learn and implement project management methodologies. Read more.

3. Project Management Methodology Template
The project management methodology template outlines how to successfully manage a project through completion. The template includes descriptions for the necessary stages: project initiation, project control, and project closeout.

On some level, all business owners are project managers. But if project managing is taking up the majority of your time you won't be able to continue to grow and build your business. This is when you might want to hire a project manager.

The project manager is a person that oversees each stage of a project. His or her only responsibility is to successfully complete a project on time and within budget utilizing the resources available.

The project manager might be you, someone on your team, a new hire or a freelancer. Here are the tools to help you define the project manager roles for your business and determine if you need to outsource the position.

4. Project Manager Job Description
The project manager job description is used as a guide for creating a company job description for the project manager position. The project manager is responsible for planning, executing, and evaluating projects according to predetermine timelines and budgets. Building and managing project teams, reporting to the project sponsor, and ensuring quality control throughout the project life cycle are also central to this position. Use the project manager job description to outline the position overview, key job tasks and specifications for the position.

5. Project Leader Job Description
The job title might be different but the responsibilities are largely the same. Use the project leader job description to outline the position overview, key job tasks and specifications for the position. The description can be used when defining the role of any of the following types of project positions within a company: project director, project manager, project leader, project engineer, project coordinator, project assistant, project analyst, and assistant project manager.

6. Contract for Project Management Services
If you decide to hire a freelancer to serve as a project manager on an as needed basis use the contract for project management services. The contract is used when a business needs to employ independent project management for development. It

outlines the amount of time and compensation allocated for the different phases of the project.

Every project starts with an idea. It's important to start a new project with an assessment process to determine the potential benefits and timing. The assessment of potential projects occurs during the project initiation stage. During this stage, a potential project is conceptualized, justified, authorized and funded. Here are the tools to take you through the Project Initiation stage.

7. <u>Project Charter Example</u>
The project charter is used to announce a new project, to articulate and evaluate key aspects of a proposed project. This document is critical to guaranteeing buy-in for a project. The goal during this stage, and specifically with the project charter, is not to generate a large document, but rather to provide information necessary to review, and determine whether the project should be initiated. The project charter provides the outline for a new project and gives management a sense of direction for the project from beginning to end.

8. <u>Project Charter Template</u>
The process of creating the project charter provides a basis for communication, understanding and agreement among project managers, department directors and any other stakeholders regarding the project. The project charter template is another option you can use.

9. <u>Project Scope Statement Template</u>
The overall project scope must be defined from the very beginning. The project manager has to provide a concise, measurable statement of what the project will accomplish. Project managers create an official statement for a project's scope using the project scope statement template. The project scope statement template's sections include: executive summary, business objectives, project description, project milestones, project approach, authorizations, and the general scope of project.

10. <u>Project Risk Management Plan Template</u>
All projects have constraints, and these need to be defined from the outset. Projects

have resource limits in terms of people, money, time and equipment. While these may be adjusted, the project manager considers them fixed resources. These constraints form the basis for managing the project. Project managers identify, categorize, prioritize, plan, and track the risk in a project using the project risk management plan template. The project risk management plan template provides a comprehensive template for outlining the strategic process to ensure that the level, type, and visibility of risk management are commensurate with both the risk and the importance of the project.

11. <u>Project Risk Management Plan</u>

Project assumptions need to be defined before any project activities take place so that time is not wasted on conceptualizing and initiating a project that has no basis for funding. The project risk management plan is a template to manage and plan the risk in a project. The project risk management plan outlines all the necessary sections of the plan, including the: overview, process, roles and responsibilities, risk communication <u>strategy</u>, rules/procedures, and risk impact analysis approach.

12. <u>Project Kick-off Report</u>

Once you have your project charter, the scope defined and the risks accessed it is time to start the project. The project kick-off report is a comprehensive template for a product kickoff document that includes descriptions for the necessary sections: objectives of the project, scope of the project, requirements, involved parties, timeline of key deliverables, meeting schedule, contingency plans and budget.

The way a project is managed and executed is the key to its success. Particular attention must be paid to keeping interested parties up-to-date with project status, helping manage quality control and monitoring project risk. Here are the tools to take you through the Project Control stage.

13. <u>Project Plan Template</u>

The project plan is a formal, approved document used to manage and control project execution. Project managers schedule and plan project resource hours, requirements, and all necessary sections for a balanced scorecard design and development plan using the project plan template. Once the project plan is completed it should be reviewed and approved by department management.

14. Project Status Report

Project managers have to provide regular project status updates and can use the project status report as a template. The project status report provides information on milestones, financials and the risk status of a project.

15. Project Management Schedule

The project management schedule is used to track the progress of projects assigned for them to complete and/or manage. The project management schedule outlines the project, activity/task, phase lists in a comprehensive spreadsheet.

16. Change Request Form

The change request form is used to submit a request for change in a project. This document can be used to avoid scope creep in a project. Scope creep is adding work without corresponding updates to cost, schedule and quality. Scope creep can render original project plans unachievable. The change request form summarizes the reasons and costs associated with a particular change. Making any change request a formal part of the project management process will allow for discussion of the change with all project team members and for everyone to be aware of any changes.

17. Project Management Sales Plan

The sales team should be included in a project from the beginning. But once the project is underway a project management sales plan should be created. The project management sales plan is a comprehensive excel template used by sales managers. This document can be used to apply project management techniques to the sales process to stay on top of the critical points in the sales process. The project management sales plan is designed to target sales activities, meet time estimates, manage control points, control risks, and achieve greater sales success. Read more.

18. Project Test Plan

Testing is a critical part of project management. The project manager has to create a plan for testing all aspects of the project. The project test plan includes descriptions for the necessary sections: project requirements, involved parties, key deliverables and milestones, time line, budget, checklists for testing requirements and a test plan.

The last major stage of a project's life cycle is project closure. Project closure is

completed once all defined project tasks and milestones have been completed and the project has launched. Here are the tools to take you through the project closure stage.

19. Project Closing Report
At the completion of a project, the project closing report helps summarize the process, methodology, findings, budget constraints and specific lessons learned from a project

20. Project Transition Plan Template
The project transition plan template is a detailed guide for transitioning a completed project. The project transition plan template includes sections dedicated to: the project overview, system support resources, budgeting, and more.

8.5 Control Tools

The **Seven Basic Tools of Quality** is a designation given to a fixed set of graphical techniques identified as being most helpful in troubleshooting issues related to quality. They are called *basic* because they are suitable for people with little formal training in statistics and because they can be used to solve the vast majority of quality-related issues.

The seven tools are:

- Cause-and-effect diagram (also known as the "fishbone" or Ishikawa diagram)
- Check sheet
- Control chart
- Histogram
- Pareto chart
- Scatter diagram
- Stratification (alternately, flow chart or run chart)

The designation arose in postwar Japan, inspired by the seven famous weapons of Benkei. It was possibly introduced by Kaoru Ishikawa who in turn was influenced by a series of lectures W. Edwards Deming had given to Japanese engineers and scientists in 1950. At that time, companies that had set about training their workforces in statistical quality control found that the complexity of the subject

intimidated the vast majority of their workers and scaled back training to focus primarily on simpler methods which suffice for most quality-related issues.

The Seven Basic Tools stand in contrast to more advanced statistical methods such as <u>survey sampling</u>, <u>acceptance sampling</u>, <u>statistical hypothesis testing</u>, <u>design of experiments</u>, <u>multivariate analysis</u>, and various methods developed in the field of <u>operations research</u>.

8.6 Quality Management

The term **quality management** has a specific meaning within many business sectors. This specific definition, which does not aim to assure 'good quality' by the more general definition, but rather to ensure that an organization or product is consistent, can be considered to have four main components: quality planning, <u>quality control</u>, <u>quality assurance</u> and quality improvement. Quality management is focused not only on product/<u>service quality</u>, but also the means to achieve it. Quality management therefore uses quality assurance and control of processes as well as products to achieve more consistent quality.

8.7 The Quality System

A Quality System sets out the standards that you are working to, and how you are going to meet them. The system should define what people, actions and documents are going to be employed in order to carry out the work in a consistent manner, leaving evidence of what has happened. It may include manuals, handbooks, procedures, policies, records and templates. The terminology used is less important than the purpose and use of the documents. The fundamentals of a Quality System are the same regardless of what your work is.