Summary of Key Points and Terminology – Module 7

- **Process management** involves planning and administering the activities necessary to achieve a high level of performance in **value creation** and **support processes**, including their design, control, and improvement. Value creation process include design processes and production delivery processes, and support processes are those most important to an organization's value creation processes, employees, and daily operations. To apply process management techniques, processes must be repeatable and measurable. **Process owners** are accountable for process performance and have the authority to manage and improve their process.
- Leading process management practices include defining, documenting, and managing important value creation and support processes; translating customer requirements into product and service design requirements; ensuring that quality is built into products using appropriate engineering and statistical tools; managing the product development process to enhance cross-functional communication, reduce product development time; managing relationships with suppliers; controlling quality and operational performance of all key processes; continuously improving processes to achieve better quality, cycle time, and overall operational performance; and innovating to achieve breakthrough performance.
- A typical structured product development process consists of idea generation, preliminary concept development, product/process development, full-scale production, product introduction, and market evaluation.
- Good product design anticipates issues related to cost, manufacturability, and quality. Improvements in cost and quality often result from simplifying designs, and employing techniques such as **design for manufacturability (DFM)**.
- Social responsibilities in the design process include product safety and environmental concerns, which have made **Design for Environment (DfE)** and **design for disassembly** important features of products, because they permit easy removal of components for recycling or repair, eliminate other environmental hazards, and makes repair more affordable.

- **Concurrent**, or **simultaneous, engineering** is an effective approach for managing the product development process by using multi-functional teams to help remove organizational barriers between departments and therefore reduce product development time. Design reviews help to facility product develop0ment by stimulating discussion, raising questions, and generating new ideas and solutions to help designers anticipate problems before they occur.
- Process design begins with the process owner and is focused on developing an efficient procedure to satisfy both internal and external customer requirements. Services have special considerations because of their fundamental differences with manufacturing. Service process designers must concentrate on doing things right the first time, minimizing process complexities, and making the process immune to inadvertent human errors, particularly during customer interactions. Classification of services along dimensions of customer contact and interaction, labor intensity, and degree of customization directs attention to the proper balance of these design elements.
- **Projects** are important value creation processes in many organizations. **Project management** involves all activities associated with planning, scheduling, and controlling projects. The **lifecycle** of a typical project includes initiation, planning, quality assurance, quality control, and closure.
- **Control** is the activity of ensuring conformance to the requirements and taking corrective action when necessary to correct problems and maintain stable performance. Any control system has three components: (1) a standard or goal, (2) a means of measuring accomplishment, and (3) comparison of actual results with the standard to provide feedback for corrective action. Control applies equally to services as it does to manufacturing.
- Control is the foundation for organizational learning. Many organizations conduct an **after-action review**, or **debrief**, that consists of understanding what was supposed to happen, what actually happened, why there might have been a difference, and what could be learned from the experience.
- Process improvement should be viewed as an opportunity, not simply a reaction to problems. **Kaizen**, the Japanese term for improvement, is a philosophy of

quality improvement in all areas of business using small, frequent, and gradual improvements over the long term.

- **Flexibility** refers to the ability to adapt quickly and effectively to changing requirements. This might mean rapid changeover from one product to another, rapid response to changing demands, or the ability to produce a wide range of customized services. **Cycle time** refers to the time it takes to accomplish one cycle of a process. **Agility** is a term that is commonly used to characterize flexibility and short cycle times.
- **Breakthrough improvement** refers to discontinuous change. **Stretch goals** force an organization to think in a radically different way and to encourage breakthrough improvements. Benchmarking and reengineering often facilitate breakthrough thinking. **Benchmarking** is the search for innovative **best practices** in any industry, and includes competitive benchmarking - studying products, processes, or business performance of competitors in the same industry to compare pricing, technical quality, features, and other quality or performance characteristics of products and services; process benchmarking - identifying the most effective practices in companies that perform similar functions, no matter in what industry; and **strategic benchmarking** – how companies compete and seeks the winning strategies that have led to competitive advantage and market success.. **Reengineering** is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in performance. Both approaches complement continuous improvement efforts in a TQ culture.