PMI CTT Symposium
Promoting Best Practices from Novice to Expert

Software Implementation How can a Project Manager Increase the Odds of Success

Kitchener, October 23, 2003

Fernando Santiago MBA PMP

P3M

What are your odds of success?

- Horrific statistics on software projects (*)
  - Only 16% of projects are successful
  - Around 52% of projects are challenged (budget, time or features/functions)
  - Around 31% of projects are cancelled before completion

* Standish Group Chaos Report

What are your odds of success?

- In addition, when a PM is assigned to a project, the most-likely scenario:
  - The solution has already been selected
  - A budget has been negotiated/contracted
  - A timeframe expectation has been set
  - Key resources have been assigned

Presentation Objectives

- Define project success
- Discuss concept of process capability
- Apply process capability to implementation of software

Presentation Scope

- Individual project delivery, not organizational project maturity:
  - CMM, OPM3, ISO 9000 oriented to organizational capability
  - Key concepts are still applicable at the project delivery level
- Focus on implementation of pre-built software solutions, not software development

What is Project Success

- The obvious criteria:
  - Meets requirements for features and functions
  - Reasonably on-time
  - Reasonably on-budget
- The real success criteria:
  - Sponsor (“C” level) objectives for the project are met
  - Users “love” the application and use it
  - These two criteria not always come together

What is Project Success

- Objectives for Implementation of Technology at the Sponsor Level:
  - Reduce operation or capital costs
  - Improve customer service to retain/increase customer base and increase sales
  - Respond to or prepare for growth
  - Replace obsolete technology (usually in combination with one of the above)

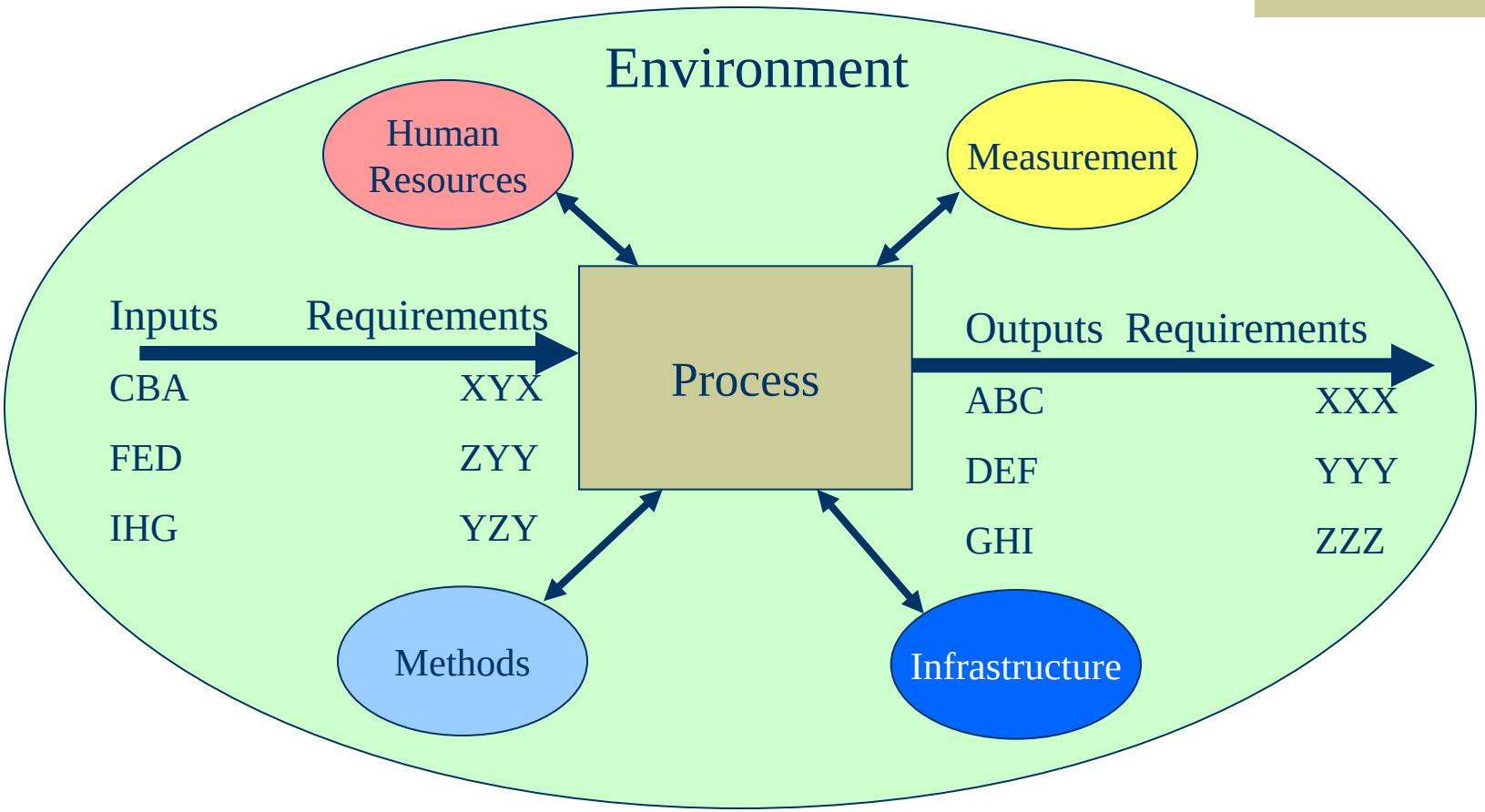
What is Project Success

- Requirements at the end-user and IT level:
  - Features and functions
  - Ease of use
  - Performance
  - Flexibility
  - Ease of integration, maintenance, etc.
- Not surprising that sponsors and users not always agree on project success

What is Project Success

- A process approach to achieve project success:
  - Define the outputs of the process
  - Define the requirements for each output
  - Define a process that is capable of meeting these requirements
- Process Capability: Common theme to CMM, ISO 9000

Model for Process Capability



All Models are wrong. Some models are useful. (George Box)

Concept of Process Capability

- The output and requirements determine how the other components should be
- The other components are not always as they should:
  - If you can, get the right components
  - If you can't change a component, compensate with another one you control

Process Capability and Software Implementation

- The output is a deployed software solution:
  - Solution working in production conditions
  - In use (by end-users)
  - Documentation (the ugly stepsister of implementation)
- The key requirements for this output:
  - Impact on the business
  - Features and functions
  - Cost and schedule

Process Capability and Software Implementation

- The key input is the software itself
- Key things to consider are:
  - Features and functions (current and planned)
  - Stability and product maturity
  - Complexity of implementation/configuration
  - Ease of use
  - Ease of integration
  - Field readiness (documentation, training material, etc.)

Process Capability and Software Implementation

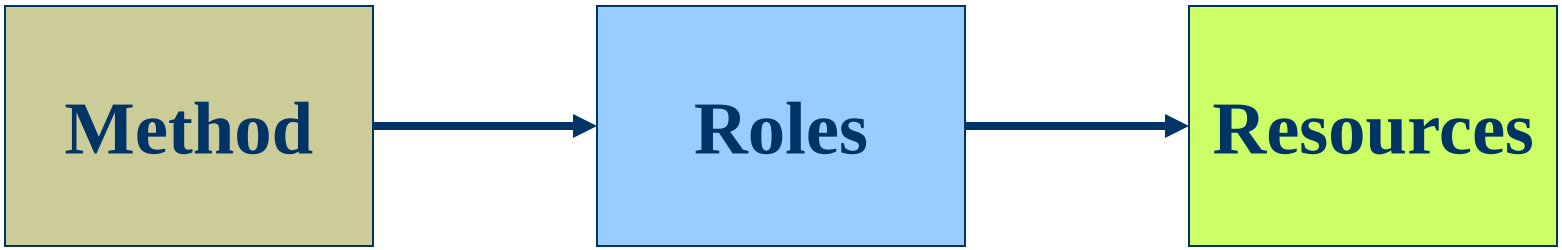
- Other inputs for this process are:
  - Users. Key things to consider:
    - Availability to participate in the project
    - Computer literacy
    - Business knowledge
  - Data for setup, testing and production
  - Pre-project documentation (handover)
  - Base Technology

Process Capability and Software Implementation

- Methods are:
  - Project Management Life Cycle Methodology
  - Implementation Methodology specific to the solution (Project Life Cycle):
    - Process definition: steps, sequence and dependencies
    - Roles and responsibilities for each step in the process
    - Tools, templates and guides for each step in the process

Process Capability and Software Implementation

- Human Resources are your project team



Process Capability and Software Implementation

- Human Resources: Things to consider:
  - Expertise with the application
  - Consulting Experience
  - Technical background/expertise
  - Business knowledge on area of application
- Organizational complexity:
  - Location of resources and customer
  - Reporting structure
  - Subcontractor/partner agreements

Process Capability and Software Implementation

- Infrastructure as resources for the project:
  - Facilities, office space, location
  - Test/QA environment
  - Communications

Process Capability and Software Implementation

- Measurement:
  - For the process of implementation
    - Cost performance
    - Time performance
    - Earned Value Management integrates both
    - Change requests, testing results, other.
  - For the output of the process
    - NPV for impact on the business
    - Verification of features and functions

Process Capability and Software Implementation

- Project Environment:
  - Customer's organization
    - Strategic direction
    - Concurrent initiatives
    - Other applications that will be integrated to the solution
  - Vendor's organization
    - Process maturity
    - Relative importance of the product and project
    - Resource availability

Application of Process Capability to Software Implementation

- How to use the model:
  - Define, refine and document output and requirements
  - Verify other elements in the model:
    - Are they capable of producing the output and meeting the requirements
    - If they are not capable, can I replace them?
    - If I can't replace them, compensate with other elements
  - Review output and requirements and repeat until the process is capable

Application of Process Capability to Software Implementation

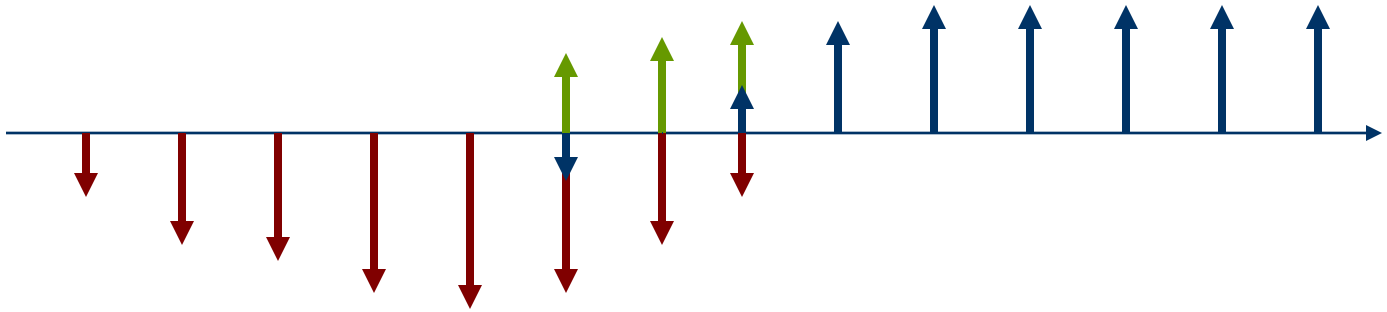
- Requirements: the most important step
  - If requirements are not clearly understood, there is no chance of success
  - Back to the Chaos Report:
    - The three major reasons for project success:
      - User involvement
      - Executive management support
      - Clear statement of requirements
    - The three reasons can be tied back to requirements

Application of Process Capability to Software Implementation

- Requirements: User involvement
  - Select the right users:
    - Business knowledge
    - Opinion leaders
    - Represent areas impacted by the solution
  - Train them early in the project (sell the solution)
  - Define requirements:
    - Define future business processes and rules
    - Define requirements, not solutions
    - Requirements should be verifiable (base for test plans)

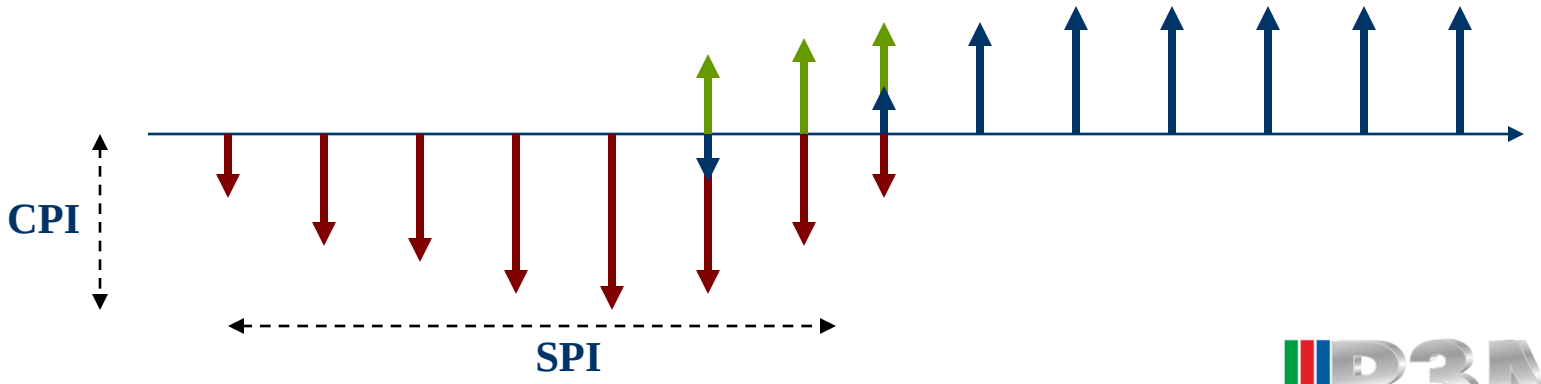
Application of Process Capability to Software Implementation

- Requirements: impact to the business should be expressed in terms of financial value:
  - Expected cost savings plus
  - margin on additional revenue compared to
  - planned investment



Application of Process Capability to Software Implementation

- Financial Value is what keeps the sponsor interested and committed to the project
- Project measurement should be “translated” to financial value through EVM



Application of Process Capability to Software Implementation

- Requirements: Best option is an initial engagement:
  - Define business processes and rules
  - Define and document requirements
  - Review NPV (allows for better pricing/negotiation)
  - Define plan for implementation (design a process that is capable of meeting requirements)
  - Initial engagement could be followed by a pilot
- Second best option: insert a baseline review after requirements signoff

Application of Process Capability to Software Implementation

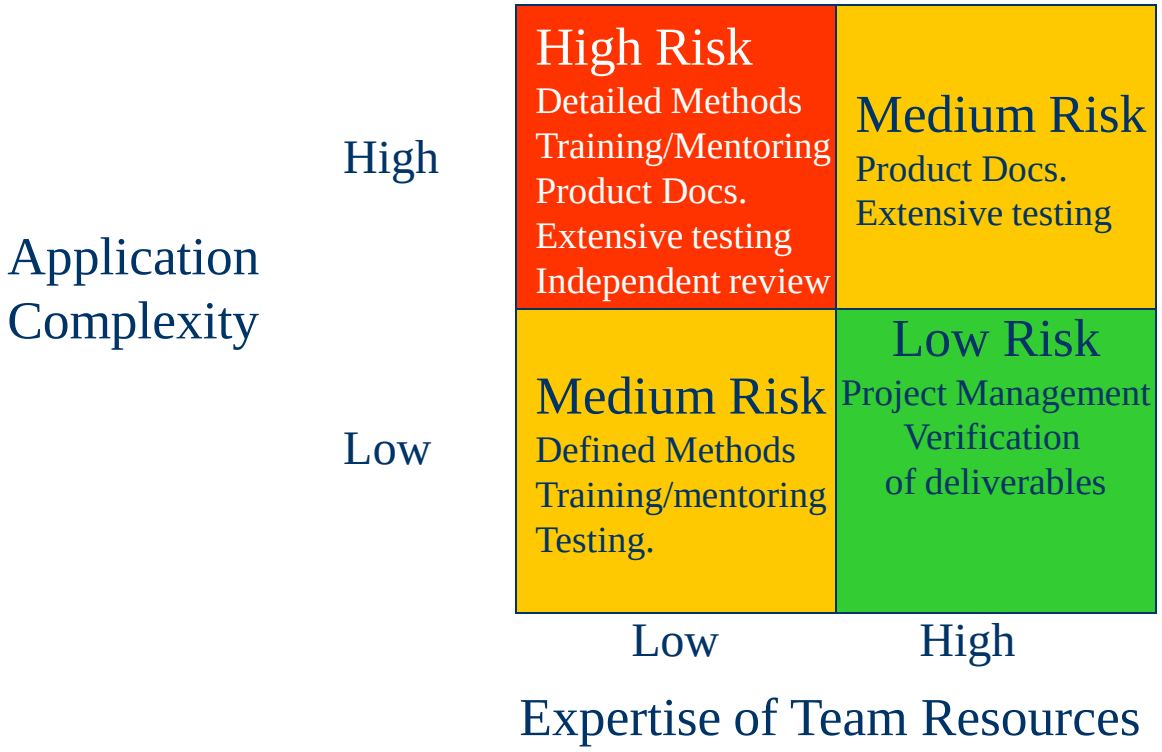
- Requirements: Once agreed, documented and signed off, apply strict change management:
  - Requirement changes are key measurement of process control and organizational maturity
  - Relate change requests to impact on the business
  - If change is approved:
    - Review the baseline for proper EVM
    - Adjust the NPV (could be positive)

Application of Process Capability to Software Implementation

- Assess the Capability of your Application:
  - Features and Functions:
    - Current and already planned
    - Room for enhancements or new functionality
    - Define project phases if possible
  - Ease of implementation VS team resources
  - Ease of use VS end users

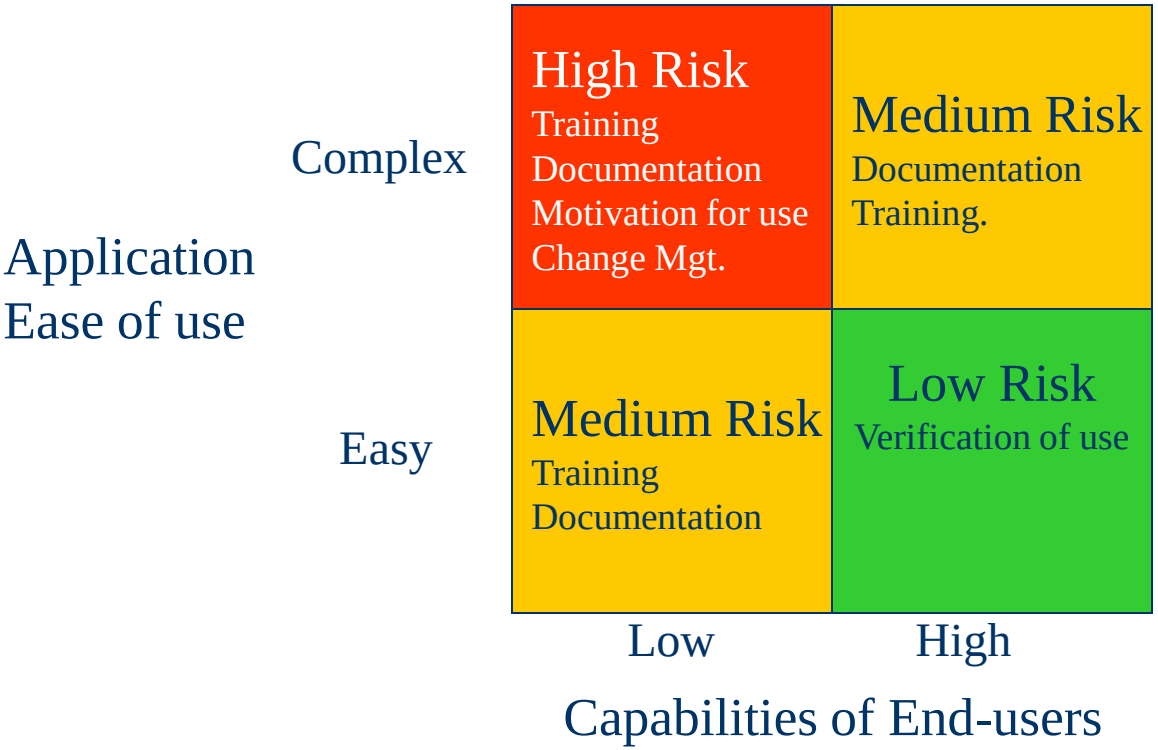
Application of Process Capability to Software Implementation

- Ease of implementation VS Team Resources



Application of Process Capability to Software Implementation

- Ease of use VS Capabilities of End-users



Conclusions

- Odds are not good
- But your project doesn’t have to fail
- Clear requirements, the key factor
- Process capability a valuable tool to increase your odds of success