Effective Project Management

Wysocki – Models, Chapters 9,10,11,12

**Project Management Life Cycle Models (PMLC Models)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  | | --- | --- | | Project Types:  Traditional Project Models (TPM)  Agile Project Models (APM)  Extreme Project Models (xPM) | PMLC Models:  TPM consists of Linear, Incremental  APM consists of Iterative, Adaptive  xPM consists of Extreme, Emertxe |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  |  |  | |  | Linear: | Scope | 🡪 | Plan | 🡪 | Launch | 🡪 | Monitor & Control | 🡪 | Close |  | |  |  |  |  |  |  |  |  |  |  |  |  |   . |

Definitions of PMLC Models

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| TPM: Traditional Project Management  APM: Agile Project Management  xPM: Extreme Project Management |
| Overview   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  | ***Goal*** | ***Solution*** | ***PMLC*** | ***PMLC Models*** |  | |  | Clear | Clear | TPM | Linear & Incremental |  | |  | Clear | Not Clear | APM | Iterative & Adaptive |  | |  | Not Clear | Not Clear | xPM | Extreme |  | |  | Not Clear | Clear | MPx | Emertze |  | |  |  |  |  |  |  |   **TPM: Traditional Project Management (Linear & Incremental)**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Clear |  | Clear | | | | |  |  |  | |  | --Goal-- |  | --------------Solution-------------- | | | | |  |  |  | |  |  |  |  | | | | |  |  |  | |  | Scope |  | Plan |  | Launch |  | Monitor |  | Close |  | |  |  |  |  |  |  |  | & Control |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |   **APM: Agile Project Management (Iterative & Adaptive)**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Clear |  | Not Clear | | | | | | | | |  |  |  | |  | --Goal-- |  | -------------------Solution------------------- | | | | | | | | |  |  |  | |  |  |  |  | | | | | | | | |  |  |  | |  | Scope |  | Plan | |  | Launch |  | Monitor |  | Close | |  | Close |  | |  |  |  |  | |  |  |  | & Control |  |  | |  | Project |  | |  |  |  |  |  | Iterations or Cycles | | | | |  |  |  |  |  | |  |  |  |  | |  | 🡨 |  | 🡨 |  |  | |  |  |  | |  |  |  |  | |  |  |  |  |  |  | |  |  |  |   **xPM: Extreme Project Management (Extreme & Emertxe)**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Not Clear | |  | Not Clear | | | | | | | |  |  |  | |  | --Goal-- | |  | -------------------Solution------------------- | | | | | | | |  |  |  | |  |  | |  |  | | | | | | | |  |  |  | |  | Scope | |  | Plan |  | Launch |  | Monitor |  | Close | |  | Close |  | |  |  | |  |  |  |  |  | & Control |  |  | |  | Project |  | |  |  |  | Phases | | | | | | |  |  |  |  |  | |  |  | |  |  |  | 🡨 |  | 🡨 |  |  | |  |  |  | |  |  | |  |  |  |  |  |  |  |  | |  |  |  |   . |

**Traditional Project Management**

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| TPM: Traditional Project Management  Linear  Standard Waterfall Model  Rapid Development Waterfall Model  Incremental |
| **TPM: Traditional Project Management (Linear & Incremental)**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Clear |  | Clear | | | | |  |  |  | |  | --Goal-- |  | --------------Solution-------------- | | | | |  |  |  | |  |  |  |  | | | | |  |  |  | |  | Scope |  | Plan |  | Launch |  | Monitor |  | Close |  | |  |  |  |  |  |  |  | & Control |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |   **Linear PMLC (Standard Waterfall Model)**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  |  |  | |  | Scope |  | Plan |  | Launch |  | Monitor |  | Close |  | |  |  |  |  |  |  |  | & Control |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |   **Linear PMLC (Rapid Development Waterfall Model)**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  | (*Swim Lanes*) |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | Scope |  | Plan |  | Launch |  |  |  | Monitor |  |  |  | Close |  | |  |  |  |  |  |  |  |  |  | & Control |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | 🡪 - - - 🡪 |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | Monitor |  |  |  |  |  | |  |  |  |  |  |  |  |  |  | & Control |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | Swim Lanes defined by Functions or Features.  Maximum cohesion within Swim Lanes.  Minimum coupling between Swim Lanes. | | | | | | | | | | | | | | |   **Incremental PMLC**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | (*Increments)* |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | Scope |  | Plan |  |  | Launch |  | Monitor |  | Close |  |  |  |  | |  |  |  |  |  |  |  |  | & Control |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  | - - - | 🡪 | - - - | 🡪 | - - - |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  | Launch |  | Monitor |  | Close |  |  | Close |  | |  |  |  |  |  |  |  |  | & Control |  |  |  |  | Project |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | Staged Delivery Waterfall Model | | | | | | | | | | | | | | |   . |

**Agile Project Management**

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| APM: Agile Project Management  Iterative  Adaptive |

**APM: Agile Project Management (Iterative & Adaptive)**

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|  | Clear |  | Not Clear | | | | | | | | |  |  |  |
|  | --Goal-- |  | -------------------Solution------------------- | | | | | | | | |  |  |  |
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|  | Scope |  | Plan | |  | Launch |  | Monitor |  | Close | |  | Close |  |
|  |  |  |  | |  |  |  | & Control |  |  | |  | Project |  |
|  |  |  |  |  | Iterations or Cycles | | | | |  |  |  |  |  |
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| **Iterative**  Iterative (Iterations): Goal Clear & Solution **partially** defined 🡪 Minimalist agile projects.  Models: Prototyping, Evolutionary Development Waterfall,  Rational Unified Process (RUP), Dynamic Systems Development Model (DSDM), Adaptive Software Development (ASD), Scrum.   |  | | --- | | Characterized by ‘Iterations’, more is known about the solution but enhancements will need to be made. Often iterations have a focus on improving minor aspects of the solution with the general solution intact. Cancellation of an iteration is not common but a re-direction within a solution or additions to solution results are appropriate. |   **Adaptive**  Adaptive (Cycles): Goal Clear & Solution **poorly** defined 🡪 Maximalist agile projects.  Model: Adaptive Project Framework (APF)   |  | | --- | | Characterized by ‘Cycles’, less is known about the solution and discoveries about the solution will need to be made. Often cycles have an emphasis on changing the solution process as well as aspects of the solution. Cancellation after a cycle is not uncommon to enable a restart. |   . | | | | | | | | | | | | | | |

**Extreme Project Management**

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| xPM: Extreme Project Management  Extreme  Emertxe |

**xPM: Extreme Project Management (Extreme & Emertxe)**

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|  | Not Clear | |  | Not Clear | | | | | | | |  |  |  |
|  | --Goal-- | |  | -------------------Solution------------------- | | | | | | | |  |  |  |
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|  | Scope | |  | Plan |  | Launch |  | Monitor |  | Close | |  | Close |  |
|  |  | |  |  |  |  |  | & Control |  |  | |  | Project |  |
|  |  |  | Phases | | | | | | |  |  |  |  |  |
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| **Extreme**: Each phase searches for a solution to a goal with adequate business value.  **Emertxe**: Each phase searches for a goal that can be achieved by a solution with adequate business value.  . | | | | | | | | | | | | | | |

**Extreme PMLC (Project Management Life Cycle) Models**

INSPIRE (Initiate, Speculate, Incubate, Review)

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|  | Initiate | Initiate. “I’ll know it when I see it”  Explore ideas, teams, approaches, and create charters.  Generate Multiple Project Overview Statements 🡪 POS | | | | | | | | | | | |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Speculate | Speculate “I wonder if this would work?”  Investigate feasibility of ideas, resources (COS:Conditions of Satisfaction), and constraints.  Produce a list of rejected and accepted POS for launching | | | | | | | | | | |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Incubate | Incubate. “Let’s do it”  Assign resources, establish a plan, and produce deliverables.  Maintain collaboration, flexibility, & creativity. | | | | | | |  |
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|  |  |  |  |  |  |  |  |  |  |  |  | Review | Review. “Where are we?”  Evaluate each phase, results from phases as a group, and the status of the project.  Make decisions to proceed with more phases or close project. | | |  |
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| **Extreme**: Each phase searches for a solution to a goal with adequate business value.  >Since goal is not set, scope triangle remains flexible.  >As project progresses, definitions of goal and solutions from phases become clearer.  >As goal and solution definitions become clearer, phases become longer.  >Review: When portions of an Extreme project can be spun off to an Agile project or a Traditional project.  . | | | | | | | | | | | | | | | | |

**Comparisons**

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|  | Category | TPM | APM | xPM |  |
|  | Nature | Fixed Methodology | Change Management | Flexible Culture |  |
|  | Characteristic | Compliance | Coordination | Creativity |  |
|  | Change Process | Change Conforms to Plan | Change is Managed in Plan | Change is the  Plan |  |
|  | Complexity & Uncertainty | Addressed in  Plans | Designed and Managed in  Solutions | Encountered in  Goals & Solutions |  |
|  | Approach | Plan-focused | Team-focused | Stakeholder-focused |  |
|  | Communications | One-way | Two-way | Multiple |  |
|  | Client | Validate Deliverables | Collaborative Involvement | Leadership Roles |  |
|  | Success Drivers | Triple Constraint | Value-added | Business Value |  |
|  | Team | Independent | Dependent | Collaborative |  |
|  | Team Members | Specialists | Generalists | Facilitators |  |
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|  | **RBS: Requirements Breakdown Structure** | | | | | | |  |  | | | | |  |
|  | Project Goal and Solution | | | | | | |  | **Project Scoping Process** | | | | |  |
|  |  | Requirements | | | | | |  | COS | | | | |  |
|  |  |  | Functions | | | | |  |  | RBS & PMLC | | | |  |
|  |  |  |  | Sub-Functions | | | |  |  |  | POS | | |  |
|  |  |  |  |  | Processes | | |  |  |  |  | WBS | |  |
|  |  |  |  |  |  | Activities | |  |  |  |  |  | [Functional Decomposition] |  |
|  |  |  |  |  |  |  | Features |  |  |  |  |  |  |  |
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**TPM: Traditional Project Management**

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| **Characteristics**  Well defined goal and solution  Repetitive activities  Few expected changes | **Strengths**  Entire project scheduled at beginning of project  Resource requirements known from start  Most skilled team members not required  Co-location of team members not required |
| **Weaknesses**  Requires complete and detailed plans  Costs too much  Does not accommodate change well  Deliverables realized late in the project  Must follow a rigid sequence of processes  Not focused on client value | **When to Use**  Simple projects  Short time of completion  Single deliverable  Repeatable projects  Control of resources  Available templates |

**APM: Agile Project Management**

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| **Characteristics**  Goal well defined but solution not  Flexible approach & Changes expected  Skilled team members are generalists rather than specialists  Co-location of team members recommended | **Strengths**  Deliverables or processes defined during project  Resources strategically utilized  Lean operations possible  Designed for change  Focus on client value |
| **Weaknesses**  Requires two-way communication  Requires increased client involvement  Deliverables not completely known initially  Project progress dependent on skilled team members | **When to Use**  Complex projects  Goals important even though solution is not well defined  Incomplete definition of deliverables  Unique learning and discovery needs |

**xPM: Extreme Project Management**

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| ***Characteristics***  Goal and solution not well defined  High uncertainty and complexity  Strong creativity in team  High client involvement | ***Strengths***  Multiple complex goals  Maximum flexibility in project execution  Maximum speed in project deliverables  High client involvement |
| ***Weaknesses***  High risk of failure  Variability of results  Subjectivity in defining project success  High client involvement | ***When to Use***  Undefined projects  Significant, long-term benefits desired  R&D |

**Applications**

**What specific types of projects would fit in each cell?**

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|  |  |  |  | Mfg | Const. | Eng. | Urban  Devel. | High  Tech. | R&D |  |
|  | TPM | Linear |  |  |  |  |  |  |  |  |
|  |  | Incremental |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | APM | Iterative |  |  |  |  |  |  |  |  |
|  |  | Adaptive |  |  |  |  |  |  |  |  |
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|  | xPM | Extreme |  |  |  |  |  |  |  |  |
|  |  | Emertxe |  |  |  |  |  |  |  |  |
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**What specific types of projects would fit in each cell as moving from one to another?**

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|  | From | To |  | Mfg | Const. | Eng. | Urban  Devel. | High  Tech. | R&D |  |
|  | Linear | Incremental |  |  |  |  |  |  |  |  |
|  | Linear | Iterative |  |  |  |  |  |  |  |  |
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|  | Iterative | Linear |  |  |  |  |  |  |  |  |
|  | Iterative | Adaptive |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | Extreme | Adaptive |  |  |  |  |  |  |  |  |
|  | Emertze | Extreme |  |  |  |  |  |  |  |  |
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