Simplified CCPM: Breakthrough in Managing Large and Complex Projects

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PRESENT: BUILDING ON SUCCESS 2017
BREAKTHROUGH RESULTS FOR GOVERNMENT AND BUSINESS
Agenda

• Projects and Challenges
• Critical Chain Project Management (CCPM) Solution
• Simplified-CCPM solution
• Results
• Summary
Projects

Managing projects can be a challenge

- 70% of projects fail
- 1 in 6 IT projects have a 200% overrun
- Failure of IT projects costs the US 50-150 billion per year
- 31% of construction projects come within 10% of budget, 25% within 10% of original deadline
- Avg. large IT project overrun is 45% over budget, 7% past due date and delivers 56% less value than expected

* From various sources such as Gallup, Harvard Business Review and others
Challenges

Customer
- Projects are late
- Projects are over budget
- Projects don't deliver what was expected

Project Manager
- Don’t get required skills
- Don’t get required number of people
- Don’t get access to expertise
- Not enough time or money
- Scope changes but timelines and budget remain

Resource
- Yanked from one project to another
- Others don’t seem to care about quality work
- No time for training or personal growth

Shared Resources
- Can’t plan schedule
- Multiple requests to help
- Everyone asks for same resource by name
- No budget for extra resources or training

Vendor
- Specs keep changing
- Frequent start and stops
- Approval takes time

Portfolio/Program Mgr.
- Loss on project
- Customers not happy
## Are the Challenges Any Different?

<table>
<thead>
<tr>
<th>General</th>
<th>Engineering</th>
<th>IT</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>Schedules are tight</td>
<td>✔</td>
<td>✔</td>
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<td>Scope changes</td>
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<td>Don’t get required skills</td>
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<td>Budget cuts</td>
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<tr>
<td>Changes with no additional $ or time</td>
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<td>People come late to project or get pulled</td>
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</table>
• Touch time on a task is high - 30-50% touch time to lead time
• Projects are full of uncertainty

Management and expert support is also much higher

Management or Expert Attention is the Constraint in Projects
Losses: Cause and Effect is Projects

To protect against uncertainty, safety is baked into the tasks
• Tasks → projects become longer and longer

Key Resources (Managers, Experts and Shared Resources) get more involved in managing the impact

Unplanned Iterations and Rework

We start holding people accountable
• Break into smaller tasks with due dates
• Even align budget numbers to the tasks

High WIP Multitasking Lack of clear priorities

Uncertainty
• Complexity
• Changes
• Scope creep
• Outside agencies
• …

Impact
• Schedule
• Cost
• Quality

Fire fighting/ Multitasking for Key resources
• Wait time for decisions increase

Forced to start even if not ready
• Resource can’t sit idle

We feel we are losing control of cost and schedule

LOW TP Loss of Profit Cash Flow Impact
Multi Tasking

MULTITASK
1 2 3 4 5 6 7 8 9
Reducing Bad Multitasking

What is the effect when you are dependent on A, B or C?

Actual time the tasks could take

Our perception of multitasking

The reality of multitasking

What is the effect when you are dependent on A, B or C?
TOC Solution: Critical Chain Project Management

1. Have buffers to cope with uncertainty, metrics
2. Low WIP to reduce MT
3. Full Kit – to reduce WIP
4. Buffer management

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Multitasking
Lack of clear priorities

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1 X

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The behavior we want to induce is **relay runner behavior** where the entire team is functioning as one unit protecting the buffer.

1. **Aggregated Buffers**

2. **Low WIP and Full Kit**

3. **Remove local date metrics, implement buffer management**
CCPM: Successes and Challenges

- CCPM is a very successful solution
  - Implemented worldwide in over 30 countries
  - Applied to MRO, Development projects, construction, software

- Challenge with CCPM
  - Difficult to implement on large programs with 1000s of people, suppliers/sub-contractors
  - Difficult to get buy-in on idea of removing local accountability (remove dates)
  - Difficult to implement with established systems already in place

- Fragile culture
  - As management changes the old rules come back

In large projects it is very hard to get the right behavior at the execution level and at the executive level
Conflict

Management require due dates
Meet all the dates – finish on time

CP is not reducing delays

Delivery Projects Effectively

Accountability

Meet Targets (Time, Scope, Budget)

Use traditional process / metrics (Due Dates)

Change from traditional process/metrics

Success is proven by:
Aggregate safety and share resources
Low WIP / Low Multi Tasking
Prioritize resources based on buffers

Change is difficult on large projects
1. Create a simple Flow to define batches of work for Full Kitting with “hard” dependencies – Strategic Full Kitting
2. Plan with aggressive assumptions to expose buffers
3. Implement incentives to plan with aggressive assumption (no penalties), measure execution to the right behaviors
Running Tasks Like a Factory

- Measure to local dates
- Control WIP and ensure Full Kit. Establish visual WIP control
- Estimate feasible effort; provide enough “rope length” to handle issues

WIP Boards allow us to run tasks like a factory
The Breakthrough

1. High Level Flow with Aggregated Buffers
   Keep Key Milestone Dates

2. Low WIP and Full Kit

3. Implement Buffer Management on HLF

Provides dates, aggregation, speed and priorities
Results

1. 20-50% faster cycle time
2. 10-25% more throughput
3. 95%+ on time delivery
4. 33%+ cost reduction
5. Higher employee satisfaction
6. Boeing Engineering reduction of 700 million in design costs
Summary

Projects performance challenges
• Time, Cost, Scope
• In absence of good methodology to manage it, the project world has resorted to a people based solution

CCPM
• Full Robust solution
• Great results
• But challenges

SCCPM
• Robust
• Great results
• Keep due dates
• Don’t need SW
• Drives correct behavior at the execution and executive level
• Allows transition into CCPM

Results: See Charles Toupes Presentation – 700 Million Savings