Simplified CCPM: Breakthrough in Managing Large and Complex Projects

Brad Cartier
Goldratt Consulting

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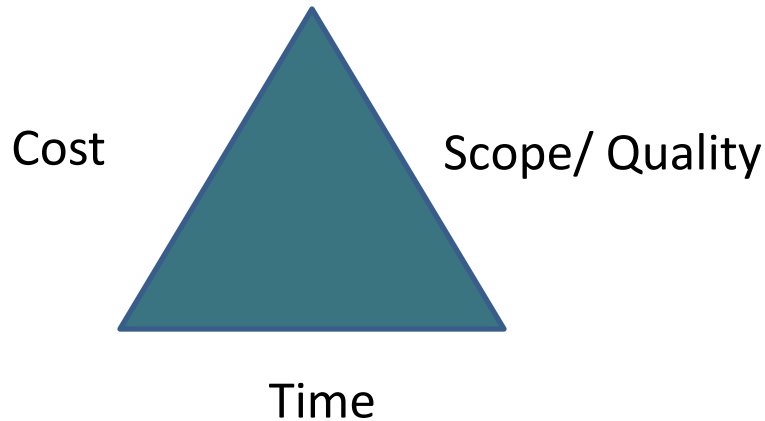
PRESENT: BUILDING ON SUCCESS 2017

BREAKTHROUGH RESULTS FOR GOVERNMENT AND BUSINESS

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Agenda

- Projects and Challenges

- Critical Chain Project Management (CCPM) Solution

- Simplified-CCPM solution

- Results

- Summary

Projects

Managing projects can be a challenge

Cost

Scope/ Quality

Time

Infamous for being late, over budget and not delivering the right/conceived value

- 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

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Challenges

Customer

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

Shared Resources

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

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

Vendor

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

Resource

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

Portfolio/Program Mgr.

- Loss on project
- Customers not happy

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Are the Challenges Any Different?

General	Engineering	IT	Construction
Schedules are tight	✔	✔	✔
Scope changes	✔	✔	✔
Don't get required skills	✔	✔	✔
Budget cuts	✔	✔	✔
Changes with no additional $ or time	✔	✔	✔
Budget cuts	✔	✔	✔
People come late to project or get pulled	✔	✔	✔

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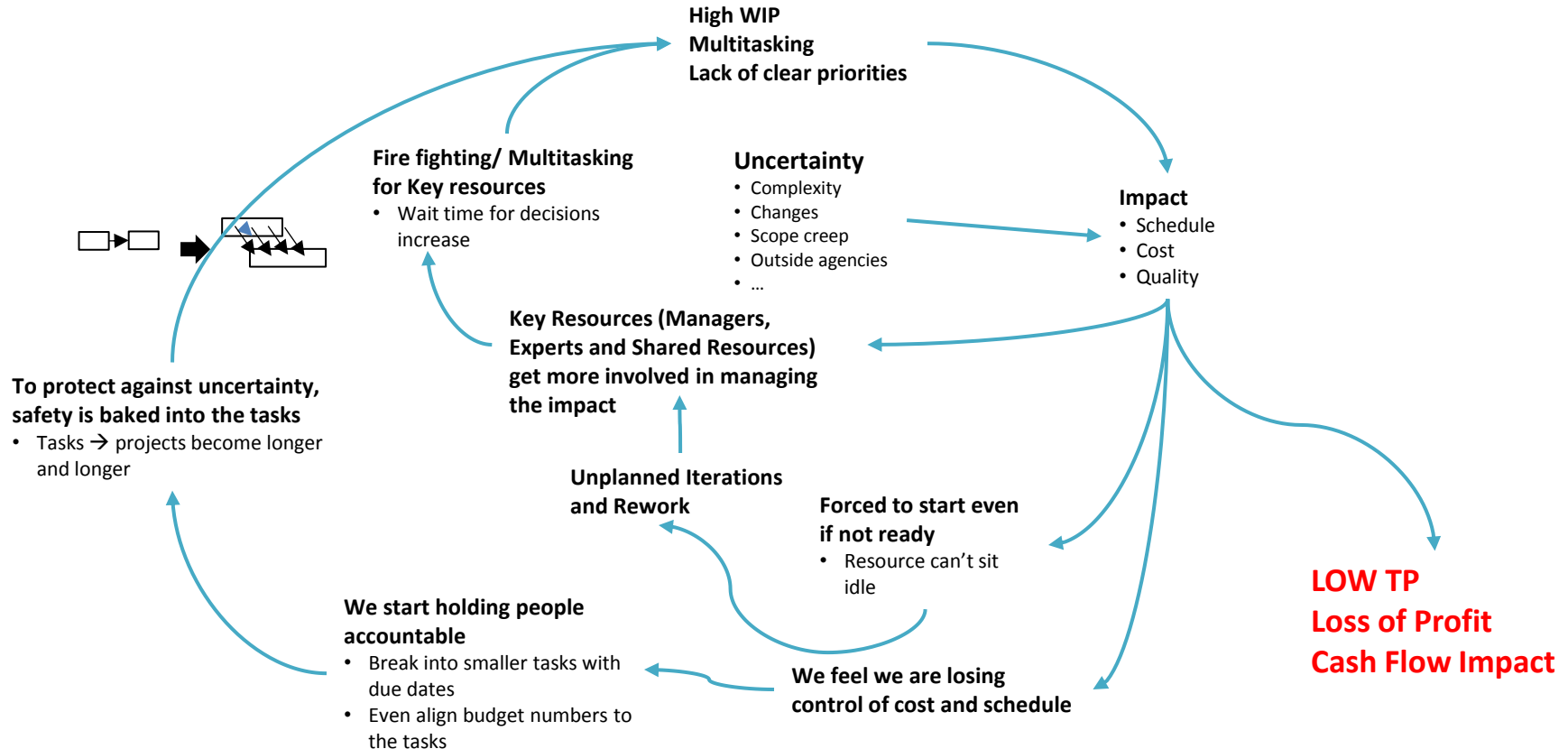# Constraints in Projects

Lead Time

Touch Time	

- 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 <u>the</u> Constraint in Projects

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Losses: Cause and Effect is Projects

High WIP
Multitasking
Lack of clear priorities

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

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

Impact
- Schedule
- Cost
- Quality

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

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

Unplanned Iterations and Rework

Forced to start even if not ready
- Resource can't sit idle

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

We feel we are losing control of cost and schedule
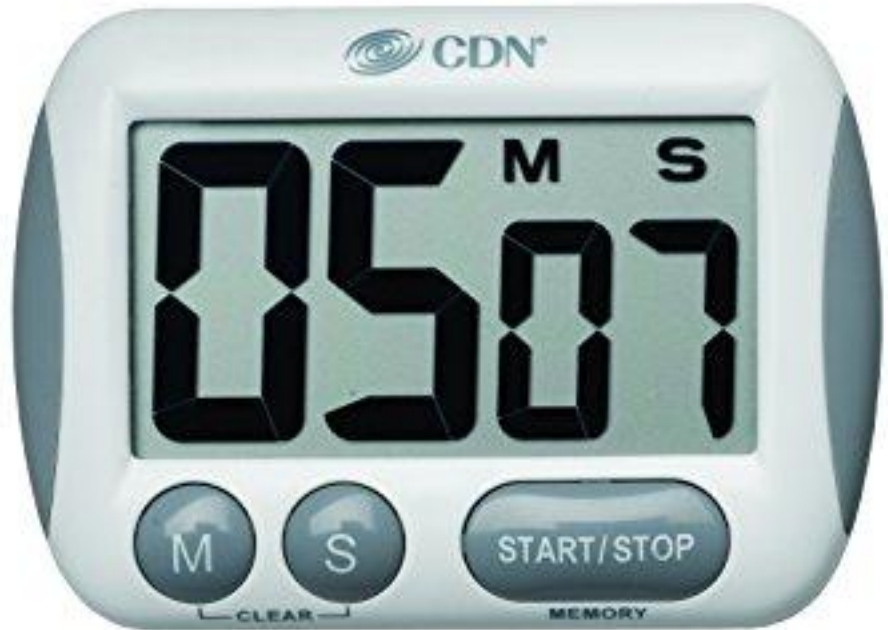
LOW TP
Loss of Profit
Cash Flow Impact

Multi Tasking

Multi Tasking

M U L T I T A S K

1 2 3 4 5 6 7 8 9

Reducing Bad Multi Tasking

Actual time the tasks could take

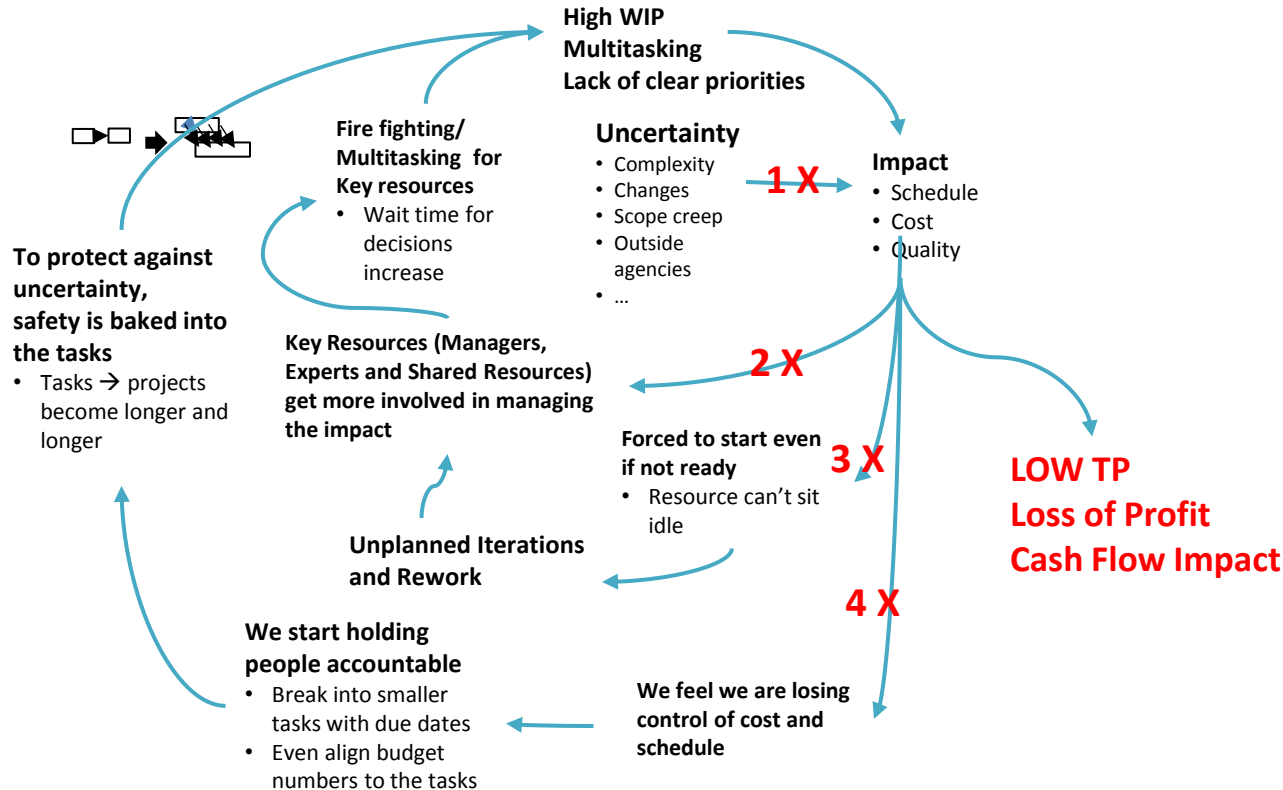| A	B	C

Our perception of multitasking

A B C A B C A B C

The reality of multitasking

| A | B | C | A | B | C | A | B | C | . . . |

Time

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

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High WIP
Multitasking
Lack of clear priorities

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

Uncertainty
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1 X

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- Schedule
- Cost
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2 X

Forced to start even if not ready
- Resource can't sit idle

3 X

LOW TP
Loss of Profit
Cash Flow Impact

Unplanned Iterations and Rework

4 X

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

We feel we are losing control of cost and schedule

1. Have buffers to cope with uncertainty, metrics

2. Low WIP to reduce MT

3. Full Kit – to reduce WIP

4. Buffer management
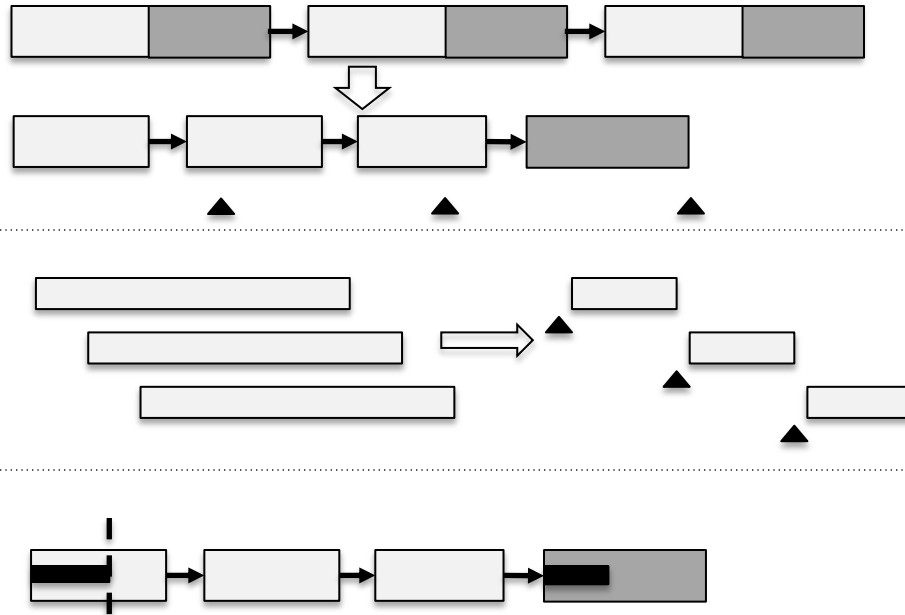
1. Aggregated Buffers

2. Low WIP and Full Kit

3. Remove local date metrics, implement buffer management

The behavior we want to induce is <u>relay runner behavior</u> where the entire team is functioning as one unit protecting the buffer

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

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Conflict

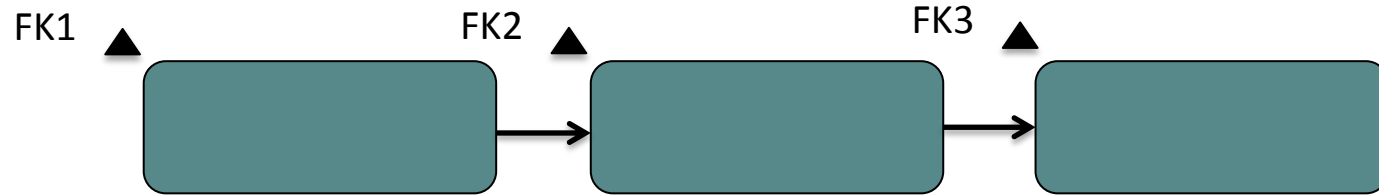Management require due dates
Meet all the dates – finish on time

CP is not
reducing delays

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                    ┌──────────────────┐          ┌──────────────────┐
                    │                  │ ◄─────── │  Use traditional │
                    │  Accountability  │          │  process / metrics│
  ┌──────────┐      │                  │          │   (Due Dates)    │
  │ Delivery │ ◄────└──────────────────┘          └──────────────────┘
  │ Projects │
  │Effectively│ ◄───┌──────────────────┐          ┌──────────────────┐
  └──────────┘      │  Meet Targets    │ ◄─────── │   Change from    │
                    │(Time, Scope, Budget)│        │   traditional    │
                    │                  │          │  process/metrics │
                    └──────────────────┘          └──────────────────┘
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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

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FK1 ▲   FK2 ▲   FK3 ▲

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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
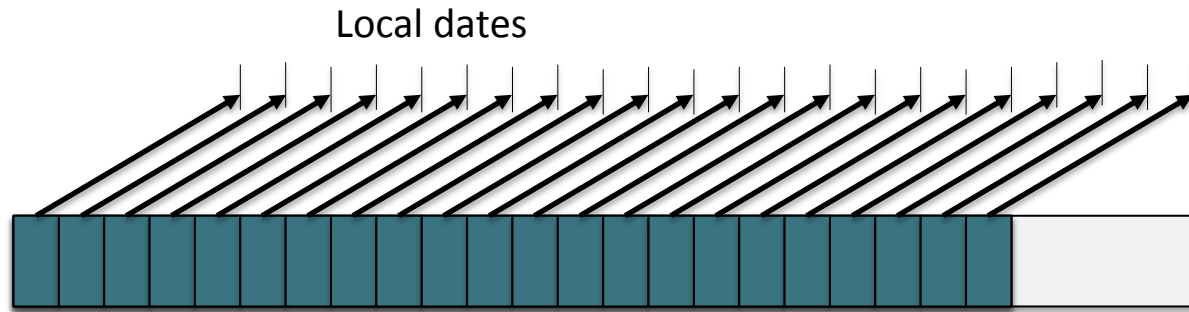
Local dates

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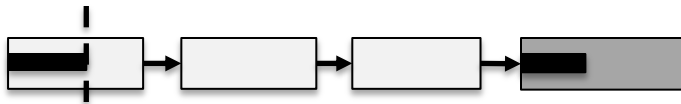
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The Breakthrough
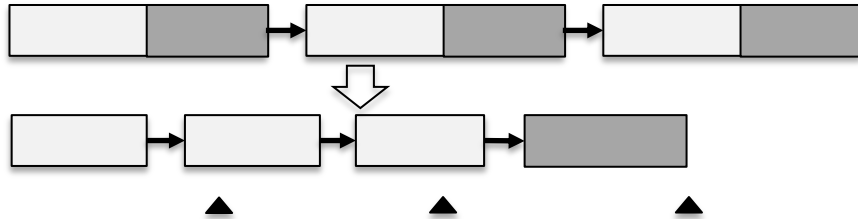
1. High Level Flow with Aggregated Buffers Keep Key Milestone Dates

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

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Back Up