A bit about your guest speaker...
Agenda

1. The undisputed backbone of project management disciplines
2. A look at what’s worked, and what’s changed
3. Predictions of the future
Why is scheduling the most important project management discipline

Answer:

It is where we place the definitions of the WORK to be done then add context.
What challenge is scheduling uniquely suited to solve vs. all others

Answer:

The COORDINATION of work across the boundaries of increasingly complex communication & organizational frameworks.
When done correctly, it is a thing of beauty

Empire State Building – completed in 1931
Contractors: Starrett Brothers & Eken
Key Stats:
  3000 workers
  60,000 tons of steel
  200,000 cubic feet of limestone and granite
  10 Million bricks
  730 tons of aluminum and stainless steel
  Price: 41 Million
  Duration: 1 year 45 days

Construction Method – Fast track, LOB “flow line”
Design changed 16 times during planning and construction
4.5 floors/week (NO COMPARABLE STRUCTURE HAS BEEN FASTER)

1,575 steps from lobby to 86th floor
Paul Crake holds record of racing these steps in 10 min 15 seconds
What’s worked and what’s changed
But before I can tell you that story, we need to understand a deeper one.

How information and specialization are bound together

Why we tend to adopt things, make decisions and form habits
Garrett’s Law

As the volume of information goes up, so goes specialization

Forever…or until we get hit by a meteor
It’s true everywhere

Too much to possibly know
specialization is required
now what saves you is how well integrated those specialist can perform

It’s the same for schedules & projects
remember our information and communication sharing model is one of the most challenging in the world

Don’t battle specialization, just recognize when its needed
Start integrating those specialties to create high performing teams
Why we adopt things – DTL (Default to Lazy)

Is it Convenient

Is it Engaging
Scheduling Specialization 2.0

Computers shift the scheduling paradigm

Convenience
  CPM Software
  Activities, Durations, Sequencing
  Outsource the math

Engagement
  New specialization of office skill
Let's outsource the math...CPM’s transition into the computing age

Roots of CPM: DuPont in the early the 1940’s leverages methods to aid in delivery of the Manhattan Project.

Through the early 1980’s, creating schedules required a mini or mainframe computer or you drew out the network by hand.

Primavera releases its first versions of CPM tools for Windows in the mid 1990’s.

Computation power, storage continue to increase...Today’s typical CPM Schedule is 25X larger than it was in 1985.

In the 1950’s, Morgan Walker & James Kelly Jr. formalize CPM method.

May 1983 Joel Koppelman, Dick Faris & Les Seskin, found Primavera, based on the “mainstream” DOS Operating System.

Scheduling is further democratized with added software entrants to the market like Microsoft Project.

But then something interesting happens
We never talk anymore…

Roots of CPM: DuPont in the early 1940's leverages methods to aid in delivery of the Manhattan Project

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May 1983 Joel Koppelman, Dick Faris & Les Seskin, found Primavera, based on the “mainstream” DOS Operating System

Primavera releases its first versions of CPM tools for Windows in the mid 1990's and secures a dominant position in the computing age

Scheduling is further democratized with added software entrants to the market like Microsoft Project
Task managements transition into the...huh that's funny...computing age

Lauri Koskela challenges Construction Management community about time-cost-quality trade-off model in 1992

Ballard & Howell analysis of project plan failures uncovers that only 50% of weekly work plan tasks are completed by the end of the planning week, 1994

Koskela & Howell present new production management theory around planning, execution & control paradigm, 2002

International Group for Lean Construction formed in 1993

Koskela argues mismatch between conceptual and observable production models. Develops new production paradigm based on Toyota Production System, 2000

Industrial PLM, Lean & AWP software tools begin entering the market to support task management

Source: https://en.wikipedia.org/wiki/Lean_construction
Scheduling Specialization 3.0

Mobile shifts the scheduling paradigm

Convenience
  Task Management
  Context

Engagement
  New specialization of *field* skill
When you come to a fork in the road, take it – Yogi Berra

It’s not about one or the other anymore

Contract Activity Schedule  Field Task Schedule

It’s about a solution to combine and manage them both
Tightly integrated cpm contract & task management scheduling

Office 2 Enterprise

Field 2 Office
The only scheduling solution that can do both...for any project of any size

Oracle Primavera Cloud Scheduling

Benefits
- Simplified CPM activity schedule - contract
- Task Management solution for the field
- Fully integrated schedule in 1 solution
- Project team coordination, enterprise insight
Predictions for the future of scheduling
Scheduling Specialization 4.0

*Context* automation shifts the scheduling paradigm

Convenience
- Mobile, Social, Sensor, Location
- Natural Language (AI)
- Computer Vision, Augmented Reality
- Robotics, Telematics

Engagement
- Social
- The Predictive Schedule
- Smart assistants (AI) – the prescient project whisperer
The “Age of Context” perfect storm

Mobile  Social  Big Data  Sensors  Location
“We have never lived in a time with the opportunity to put a computer in the pocket of five billion people”

— Marc Andreessen
Context *can* clearly change lives for the better
The built world is increasingly adding context to work by adopting technology

Augmented Reality, Computer Vision, Internet of Everything, Robotics, Telematics

- Improved form factors (AR)
- Geofencing
- Location awareness
- Work tasks
- Instructions
- Status & Progress
- Safety
- Tools
- Labor (?), Material, Equipment
"Wearables for assets"

- Assets can’t easily argue with us about how we invade their privacy
- Infrastructure always needed & changing
- Asset retrofits & upgrade programs
- Project driven supply chains
- Tennant & public infrastructure improvements
- Leveraging unlimited free labor

How is this impacting your business model?

Prefabrication, Trades, Supply Chain...
Some thoughts on pattern recognition…and the pendulum swings
Ray Kurzweil

“The Singularity” – behavior equivalent to or indistinguishable from that of a human. The reverse engineering of the human brain...2029.

Moore’s Law – by 2045 computers will be a Billion times more powerful than ALL the human brains on earth.

Language is the key to everything – “My project is ultimately to base search on really understanding what the language means.”

Google – organize, process & encode information, your “cybernetic friend”.

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“the team and I wanted to spread positivity and love in the world.”
“The idea that ... teens would be getting depressed when they don’t have enough likes ... was nowhere on our radar,“

Justin Rosenstein
Former Google engineer
Co-creator of the “like” button at Facebook
“We want to ... figure out how to manipulate you as fast as possible, and then give you back that dopamine hit. It’s using the human brain against itself, essentially.

— Chamath Palihapitiya
Former VP Growth, Facebook
It’s all good right?

Apparently you have until 2029 to live it up…

Video games: A complete waste of time? or the next generation of war fighters? Either way, kinda freaky.

It’s tough to make out with an operating system…but hey…whatever works for ya

When everything is basically done for us…we will get to wear a lot of sweatpants…lululemon will adjust
Let’s keep talking...

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A one stop shop solution for Portfolio, Schedule & Risk Management

Primavera Cloud Scheduling Solution

Easy
Integrated
Trusted
Portfolio Management – “Do the right projects”
Planning, Scheduling & Resource Mgmt – “Do projects right”
Risk Management – With Predictive Insights & Intelligence
“For our industry, I believe the race worth winning is how to provide the most context relevant experiences to the office and field professionals who deliver all types of engineering & construction projects.

– Garrett E. Harley