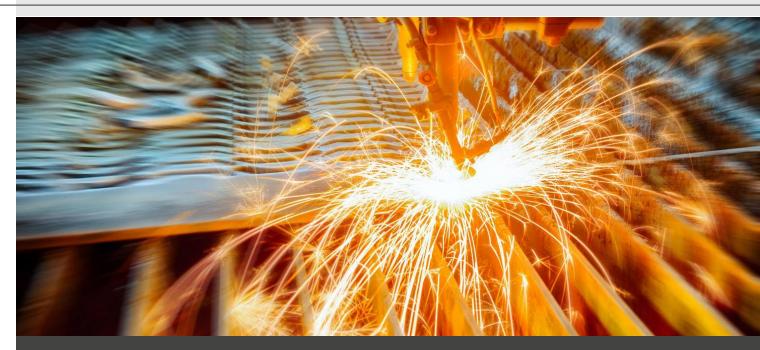


a new angle on your complex projects

### Project Complexity – why should PMI & its members be interested?







October 2018 Karen <u>Cherrill, Director</u>

#### Introducing ourselves

- Karen Cherrill
- BEng Chemical Engineering, CEng
- Director of Kingsfield Consulting
- 30 years' experience in international engineering and construction projects
- Areas of particular interest complexity, risk, working in joint ventures, collaboration



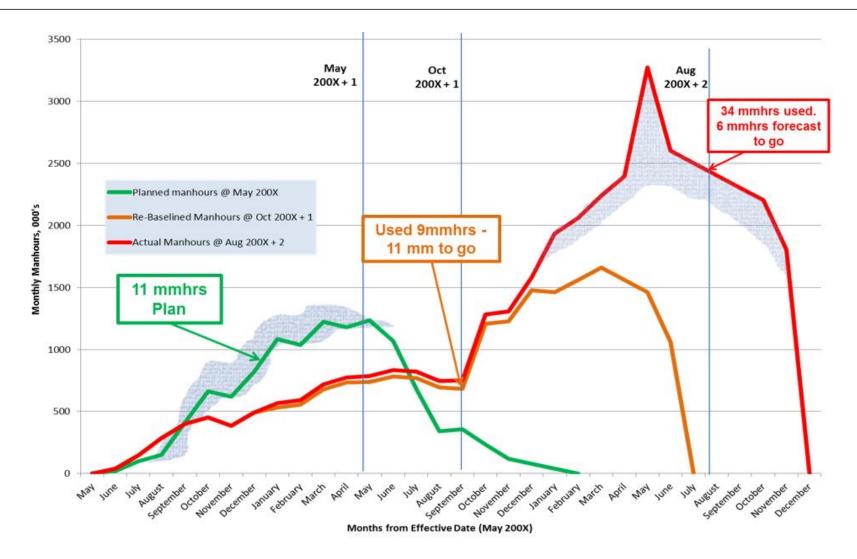
#### Our aims for this presentation

- Show what can happen to costs and schedule on complex projects
- What causes this seemingly uncontrollable growth?
- How can we use this understanding to improve management of complex projects?





### Why we should be interested in complexity – because cost & schedule can get out of control





#### So what happened?

- This was a relatively straightforward housing construction project in the Middle East
- Planned 11m man-hours grew to in excess of 40m; the project was over a year late; and the costs more than doubled
- One of the key causes of growth was that the project became COMPLEX rather than just COMPLICATED

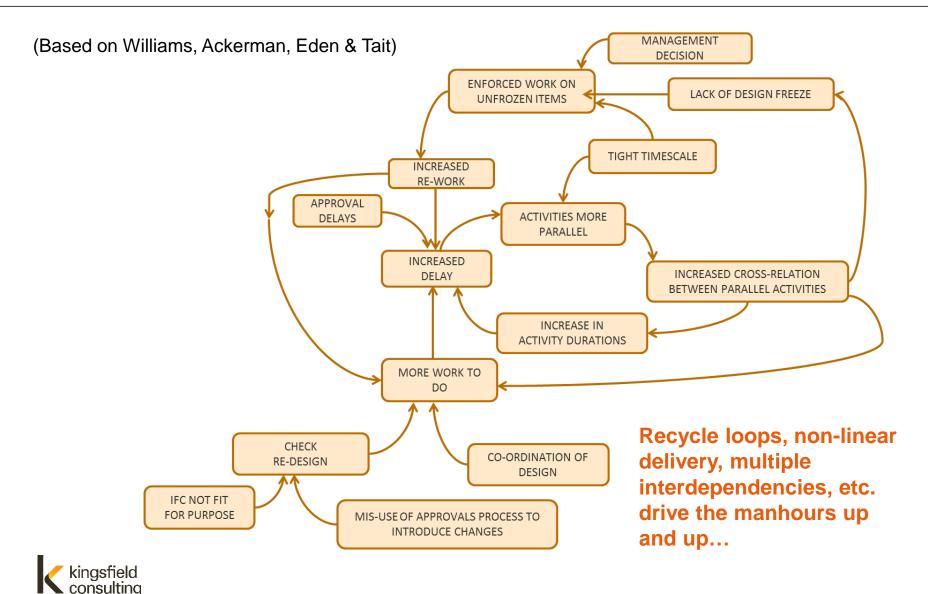


# What's the difference between complicated and complex?

Complicated	Complex
Predictable	Unpredictable
Linear	Non-linear
Clear beginning – middle – end	Emergent behaviour
Repetitiveness involved	Recycle loops
Can be modelled	Unclear cause & effect
success depends on execution of the plan	success emerges, and depends on ability to adapt



# Causal mapping shows how the hours spiral out of control



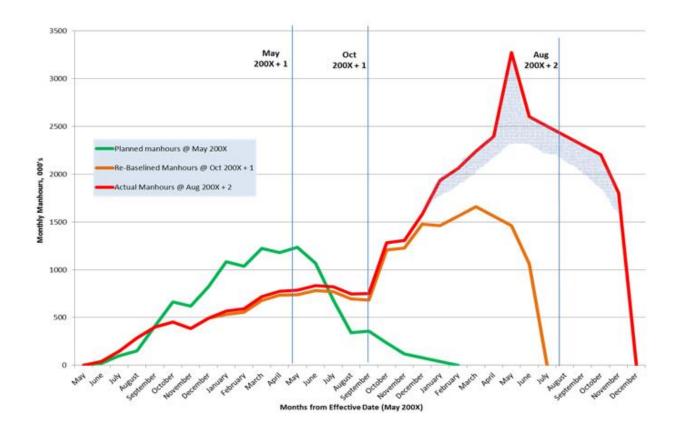
### Need to act differently in complex projects

Just a few ideas on needing to act differently in a complex project environment...

- What type of people will thrive on complex projects those who are comfortable with continually adapting or those who need to follow a linear plan?
- Research shows that opportunities need to be created for 'big picture' thinking and planning
- Probe-sense-respond emergent behaviour is key characteristic of complex systems so try something out, see what happens and adjust
- Ensure diversity of thought for challenging problems (break down silos)
- Initiate different ways of communicating that address the interconnectedness
- Identify leading (rather than lagging) indicators as early warning flags for intervention
- Use scenario planning for major risks e.g. what if....? so that the team re-gains a level of control through trying to anticipate what might emerge



## Are you prepared to act differently to avoid your project outcomes looking like this?



INSANITY "doing the same thing over and over again and expecting different results" Albert Einstein



### **Complexity in Project Management course**

- International Centre for Complex Project Management – lots of great research and resources
- Kingsfield partners with ICCPM for delivery of their PM course
- If you are interested, please come and talk...





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