Project Controls Expo – 16th Nov 2016
# Emirates Stadium, London

The Human Element in Project Controls

About the Speaker

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☐   With over 25 years' project management experience in the high technology, aerospace & defence sectors, and having operated on both sides of the Procurement Dimension from Customer & Supplier space, working for major contractors including MEGGITT and BAE Systems, plus UK and International Military Organisations.

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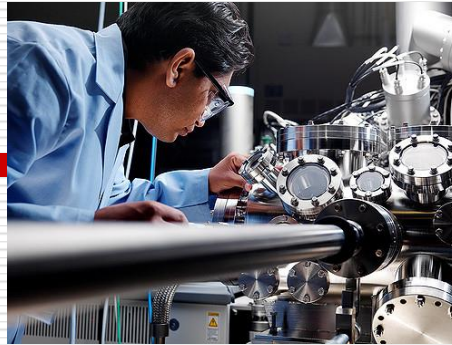
About the Topic

The Human Element in Project Controls

With increasingly complex projects, ever sophisticated toolsets, the need for a consolidated approach encompassing the human aspects (knowledge, calibre, experience, and training), and the appropriate integration of toolsets is essential to prevent the problem of human fallibility impacting Project Controls Implementation and ultimately Project Delivery.

This session will illustrate areas of Success, Problematic features, Lessons Learned and develop rationale for organisational focus.

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DISCLAIMER

Views of Author are NOT necessarily those of the Major Contractors or Military Organisations (MOD, NATO) worked for within the recent or distant past.

Structure

- ☐ WHY?
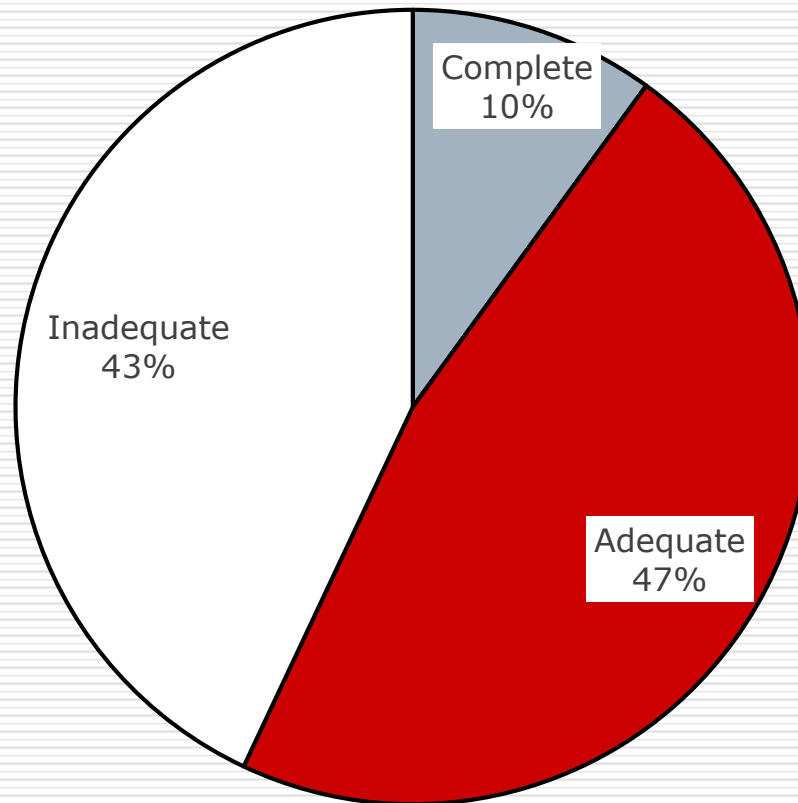- ☐ STRATEGY
- ☐ CHARACTERISATION
- ☐ HAZARDS
- ☐ TAKE AWAY

WHY ?

Skills Gap

Project Controls Skills Level

Complete
10%

Adequate
47%

Inadequate
43%

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Collaborative Dimension

Essential requirement of current PM Organisations for efficiency

- ☐ Matrix Organisational & Operational Structure
- ☐ Enlightened Partners
- ☐ Stakeholder Management
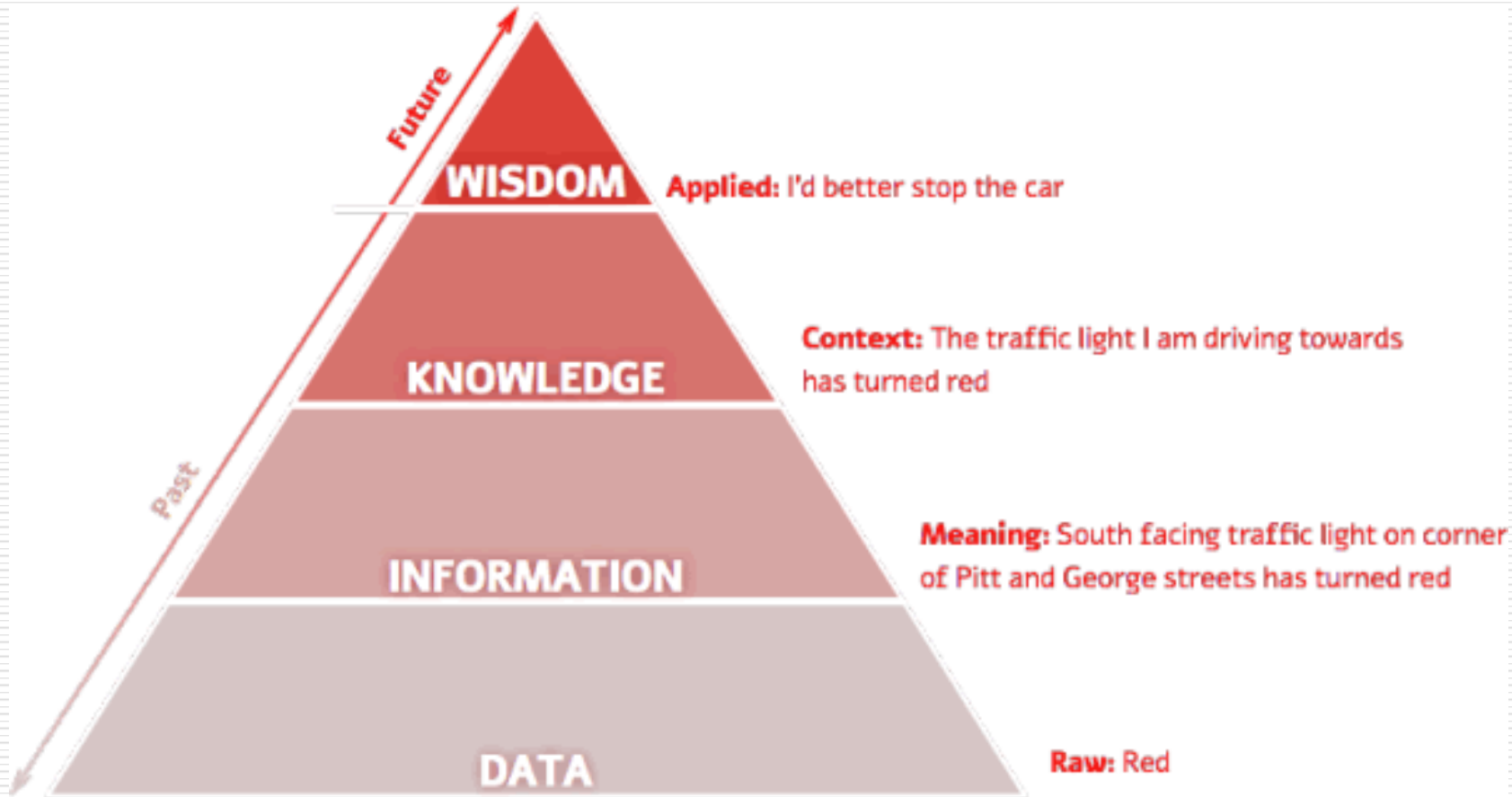- ☐ Connected World
- ☐ Sharepoint (PMIS)

STRATEGY

Route

- ☐ Helicopter View

- ☐ Plan for long term and sustainable benefit

- ☐ People, Process, Toolset

- ☐ Treat as Strategic Business Project
  - ■ Business Case & High level Sponsor
  - ■ Key Objectives
  - ■ Consultation

Data Pyramid

Future

WISDOM — **Applied:** I'd better stop the car

KNOWLEDGE — **Context:** The traffic light I am driving towards has turned red

INFORMATION — **Meaning:** South facing traffic light on corner of Pitt and George streets has turned red

DATA — **Raw:** Red

Past

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Wisdom

- ☐ Wisdom Pyramid
  - ■ As driver for Value Added

  - ■ Timeline for Incremental Reporting

  - ■ Escalating steps / tiers of info
    - ☐ Width – adjust circulation
    - ☐ Narrow = focused

- ☐ The technology companies taking part in the survey are the least likely to have optimized or monitored controls.
  - ■ KPMG 2015 Global Construction Project Owner's Survey

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CMMI Model

Right People – Project Managers Career Path

Type of Project(s) / Programme(s)	Project Management Roles	Training Availability
Level 5 • Level 5 complexity • Greater than £350M	Executive Project Manager	• Other external leadership course(s)
Level 4 • Level 4 complexity • Up to £350M project lifetime cost	Senior Project Manager Level II (SPMII)	• Other external leadership course(s) • Cranfield University Leadership course • SL Leadership/People skills courses • Simulation (I & II)
Level 3 • Level 3 complexity • Up to £170M project lifetime cost	Senior Project Manager Level I (SPM1)	
Level 2 • Level 2 complexity • Up to £70M project lifetime cost	Project Manager Level II (PMII)	Instructor led & E-Learning • PM Fundamentals • Health & Safety • Simulation
Level 1 • Level 1 complexity • Up to £30M project lifetime cost	Project Manager Level I (PMI)	• Business Basics • PM People Skills • Commercial • Leadership
Supervised Tasks	Project Assistant	• APM Level D Course • Introductory APM Course

Sellafield Ltd

A company owned by Nuclear Management Partners

Nuclear Management Partners
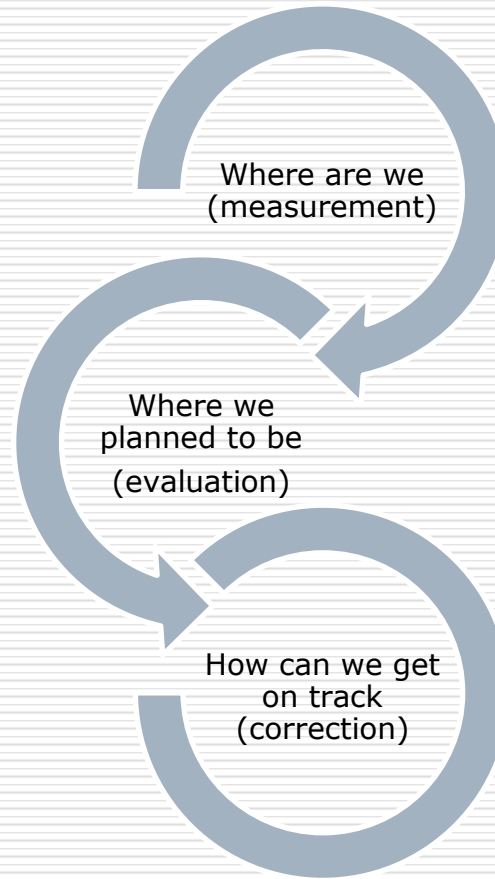
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Competence

- ☐ Define Standard
- ☐ Collect Evidence of Individual Performance
- ☐ Map evidence to standard
- ☐ Make Factual decisions on competence level outcome
- ☐ Feedback
- ☐ Plan to cover gaps
- ☐ Award / Benefit

- ☐ Match complexity & criticality of role to experience quotient and competence

Focus

Where are we
(measurement)

Where we
planned to be
(evaluation)

How can we get
on track
(correction)

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Continuous Improvement

☐ Key Improvement Factors – survey results

- ■ Greater commitment from Senior Management
- ■ Improved Toolset, Process & Integration
- ■ Better Functional Leadership
- ■ Enhanced Recruitment

Mentoring

- Benefits
  - Individual Development (Receiver & Mentor)
  - Skill Development
  - Experience imparted
  - Network Development
  - Loyalty
  - Company affinity

CHARACTERISATION

Metrics

- ☐ Quality not Quantity – A few well chosen metrics are better
- ☐ Pilot and Adjust
- ☐ Open & Transparent
- ☐ Keep checking process (eliminate work-arounds)
- ☐ Test before introduction (Focus Group)
- ☐ Never shoot the Messenger
- ☐ Realism – Time till fully operational

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Value Added

☐ Extremely conscious of the Value Added to the reporting controls / examination at ALL levels…

   ■ Examinee

   ■ Examiner(s)

   ■ Stakeholder(s)

☐ Time spent has << value benefit (equation)

☐ Keep it Simple Sxxxxx (KISS)

☐ Brain ability to assimilate information from screen

☐ Avoid minutiae / too much oversight

☐ = Demotivation

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Productive Time

- ☐ Activity – Non Productive
  - ■ Over zealous monitoring
    - ☐ Non-profitable conformance
    - ☐ Raison d'etre for monitor / control recurrent activity
    - ☐ Missing larger business perspective
    - ☐ TIME lost

  - ■ Ensure Controls Activity with Benefit

Resource Management

☐ Monitor Overload

☐ Resource Management in matrix organisation

☐ Sales and Resource Planning Process !!!

☐ Forecasting techniques

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Earned Value Methodology

- ☐ Military DOD requirement
- ☐ Engages ALL parties (SubCon, Prime, Customer, User)
- ☐ Detail, Detail, Detail. = Thorough understanding
- ☐ Still Historical focus + Prediction
 - ■ based on good knowledge
- ☐ Excellent Early Warning System

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Visualisation

- ☐ Dimensions
  - ■ Planar
    - ☐ 2 quantitative variables
  - ■ Retinal
    - ☐ extra element: shape, colour, size

  - ■ To be effective – Involve Both Dimensions

- ☐ *"We did expect visual mapping would perform better simply because this is the way the brain is wired up."*

Example Visualisation

Variables and Categories - Project Prioritisation

Risk	HIGH	MID	LOW
Business benefit			
£££			
££			
£			
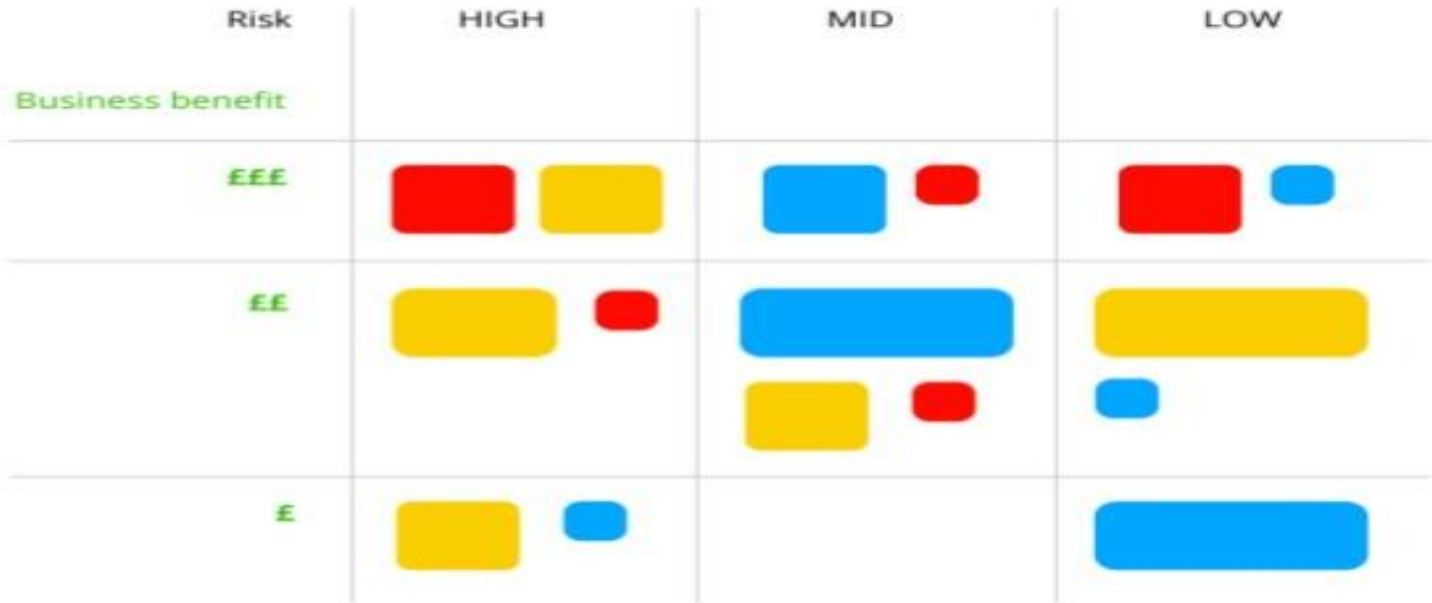
HAZARDS

DE-Motivators
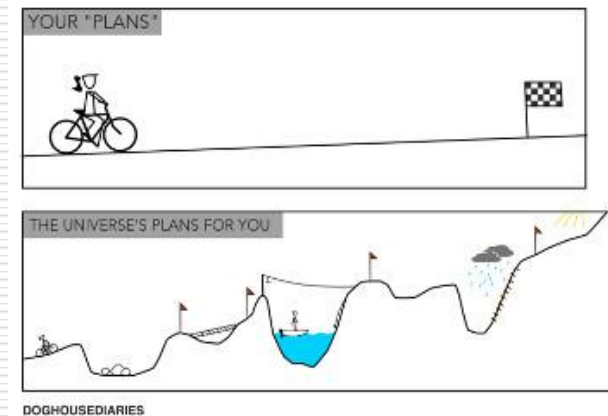
☐ Toolset does NOT deliver

☐ Incorrect sizing to demand – SLOW

☐ Lack of relevant training

☐ No consultation

☐ Controls imposed
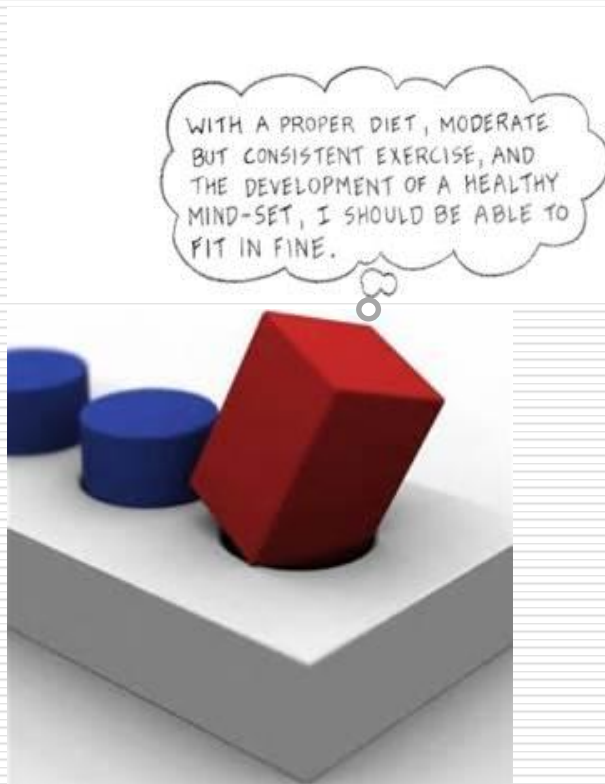
   ■ – with little or no explanation of rationale

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Sabotage

- ☐ Some will find a way around
- ☐ Resistance to Change
- ☐ Different objective
- ☐ Test Check Test
- ☐ Feedback
- ☐ Survey

YOUR "PLANS"

THE UNIVERSE'S PLANS FOR YOU

DOGHOUSEDIARIES

Square Peg in a Round Hole

WITH A PROPER DIET, MODERATE BUT CONSISTENT EXERCISE, AND THE DEVELOPMENT OF A HEALTHY MIND-SET, I SHOULD BE ABLE TO FIT IN FINE.

- ☐ In @ Deep End
- ☐ Sink or Swim
- ☐ Never managed Project before
- ☐ Needs must
- ☐ Diet = Attitude
- ☐ Exercise = Training
- ☐ Mind-set = Mentality /Approach
- ☐ Fit – in fine = "how long till productive"
- ☐ Cultural Environment

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Human learning styles – VAKT Model

- **Visual (V)**
  - Preference for seen or observed things, including pictures, diagrams…
  - These are the people who will **work from lists and written directions and instructions.**

- **Auditory (A)**
  - Preference for the transfer of information through listening.
  - These are the people who are happy being **given spoken instructions**

- **Kinaesthetic / Tactile (KT)**
  - Preference for physical experience - hands-on experiences.
  - These are the people who **like to experiment, hands-on**, and never look at the instructions first!

Colour Deficiency

Normal Vision | Deuteranopia (Green Deficiency)

☐ **About 8% of men and about 0.4% of women are colour <u>deficient</u> to one degree or another.**

☐ **Majority of these are red-green deficient (see traffic light outcome picture)!**

☐ **Where colours must convey different messages use those that are easily distinguished by colour-blind persons.**

☐ **Employ redundant visual clues (reinforce with traffic right letter R (Red) A (Amber) G (Green)**
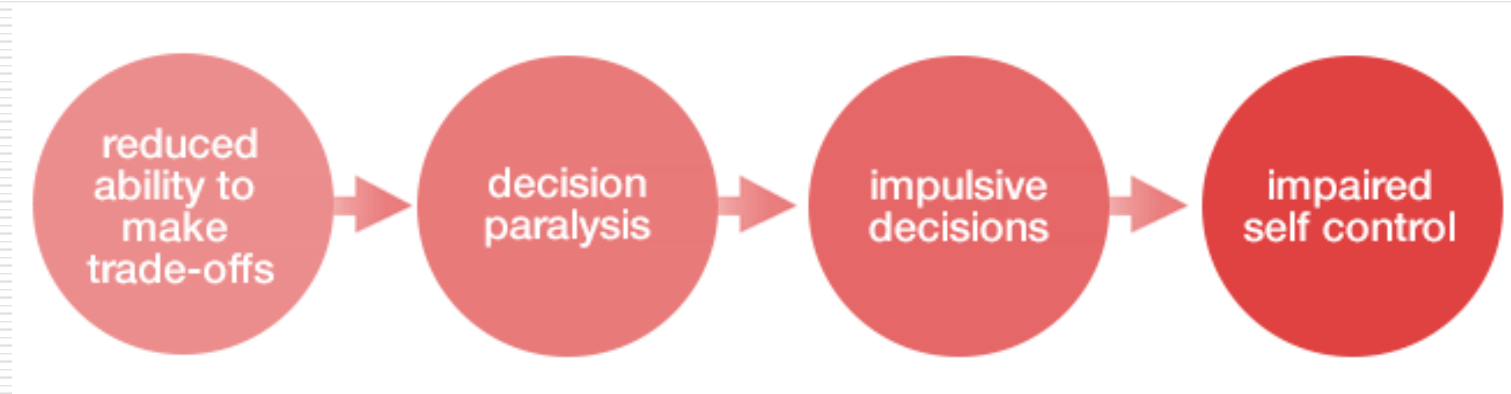
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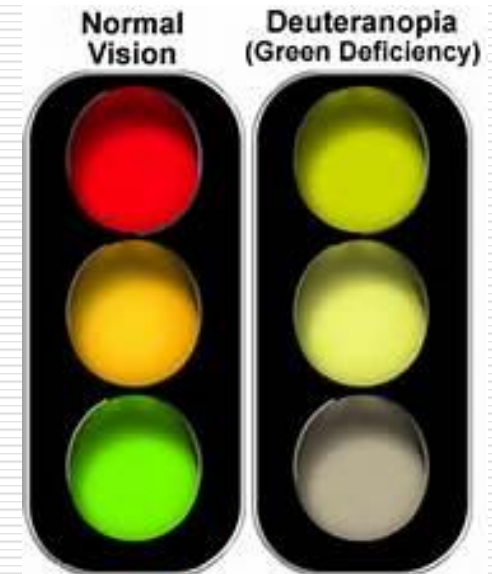
Dashboard Rage

Cognitive Bias

☐ Common bias that will affect decision making

- ■ Anchoring – over reliance on 1st piece of information
- ■ Choice supportive – feel good factor
- ■ Bandwagon effect
- ■ Ostrich effect – ignore negative information
- ■ Overconfidence
- ■ Pro-innovation effect – overvalue innovative component
- ■ Zero-risk – need for certainity

Decision Fatigue

reduced ability to make trade-offs → decision paralysis → impulsive decisions → impaired self control

Artificial Intelligence

- ☐ Automated Planning / scheduling – leading to better project execution
- ☐ Interpret trends and requirements (opportunity)
- ☐ Remove drudgery & upskill workforce (opportunity)
- ☐ Procurement bid production / conduct basic evaluations!
- ☐ Status reporting – value added
- ☐ However many organisations not ready for such change (delegated decision making)
- ☐ Computers only as good as data HUMANS put into them

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Way Forward

☐ Training Programme
- ■ Tailored to Business
- ■ To suit skill base
- ■ Role specific
- ■ Performance Based incentives

☐ Recruitment
- ■ Attract the Best
- ■ Develop Internally
- ■ Mentor Programme
- ■ Consultants as Interim

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Take Away

- ☐ Tailor
- ☐ Empower PM @ project level with key dashboard fundamentals
- ☐ Test level of scrutiny "Health Check" with experienced PM set
- ☐ Ensure reporting requirement logical stepped process
- ☐ Focus on Right skill base for role
- ☐ Check Outcomes enforce process "are we doing it right"

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