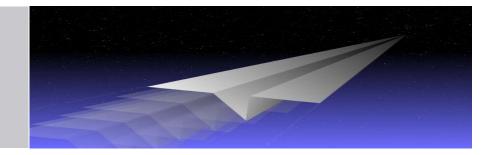


How to identify problem projects before they to start to fail



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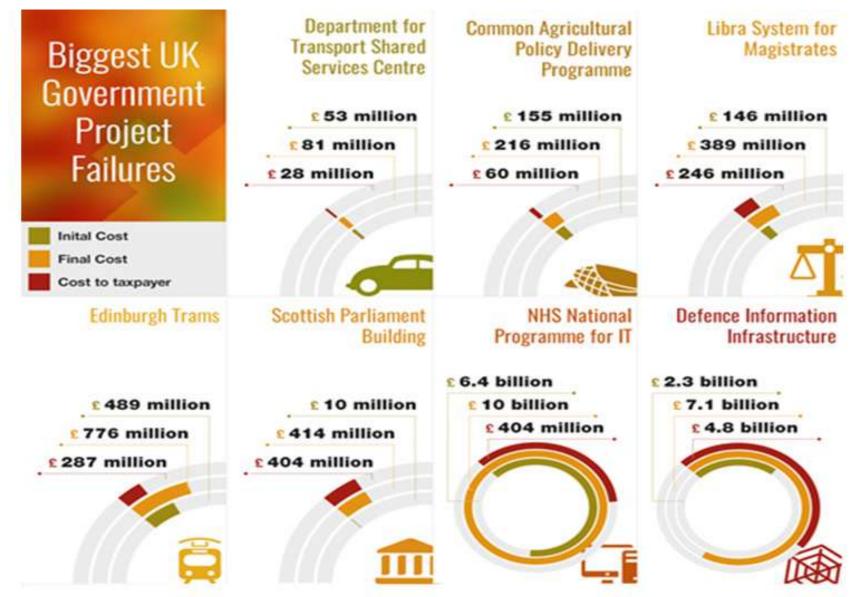
- 6 yrs Graduate Engineer to Head of Design Assurance (Defence)
- 2 yrs Quality Manager (Defence)
- 2 yrs Auditor/Consultant/Trainer for SGS
- 30+ yrs Auditor/Consultant/Trainer (Contract)
- IRCA Registered Lead Auditor since 1992
- TickITplus/ISO2000/ISO27001/ISO22301/TISAX Lead Auditor
- World Lottery Association Security Control Standard Auditor
- Cyber Essentials Plus Auditor
- EC-Council Certified Ethical Hacker
- EC-Council Certified Security Analyst
- Certified Penetration Tester



- The problem of failed IT projects is one that impacts companies across the world, costs millions in lost revenue, wastes resources, and prevents companies from reaching their business objectives.
- Most organisations will perform a post project review to understand why the project didn't perform as expected and identify lessons learned.
- Is there a better way to use the lessons learned?

Cost of project Failure





Post Project Review/Lessons Learned



Traditional approach

- Team Reflection
- Understanding
- Lists
- Actions
- Database

Using the Lessons Learned - varies

- Updates to templates
- Knowledgebase for future projects to consider
- Identify competency/training needs
- Better identification of future risks

The problem with this approach



- Lessons learned are gathered after the case
- We have already
 - Missed delivery deadline
 - Overspent against the budget
 - Experienced a Customer Complaint/Dispute

What if

- We had an Early Warning System (EWS)
- A radar or sonar system a form of monitoring and alarm system

Early Warning Systems (EWS)

- Tsunamis
- Earthquakes
- Volcanic Activity
- Landslides
- Floods
- Droughts
- Hurricanes
- Forest Fires
- Pests & Diseases on crops
- Viruses and other health hazards

RISK KNOWLEDGE

Systematically collect data and undertake risk assessments

Are the hazards and the vulnerabilities well known? What are the patterns and trends in these factors? Are risk maps and data widely available?

DISSEMINATION & COMMUNICATION

Communicate risk information and early warnings

Do warnings reach all of those at risk? Are the risks and the warnings understood? Is the warning information clear and useable?

MONITORING & WARNING SERVICE

Develop hazard monitoring and early warning services

Are the right parameters being monitored?

Is there a sound scientific basis for making forecasts?

Can accurate and timely warnings be generated?

RESPONSE CAPABILITY

Build national and community response capabilities

Are response plans up to date and tested?

Are local capacities and knowledge made use of?

Are people prepared and ready to react to warnings?

Projects - Early Warning System (EWS)



- Obtain knowledge to build a baseline understanding of why projects fail
- Determine what to monitor to identify the risk evolving through time
- Early Warning System to package the monitoring information into actionable warning messages understood by those that need, and are prepared, to hear them
- Build a response capability for when failure signals are detected

EWS Step 1 - Obtain Knowledge



- Data from the past lessons learned
- Identify what data could be an indicator, of potential project failure, based on project complexity

Note the knowledge data needs to be comparable...



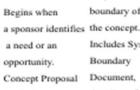


Systems Development Life Cycle (SDLC) Life-Cycle Phases





Initiation



Boundary Document, is created.



Planning

Development Develops a Defines the Project Management boundary of Plan and other Includes Systems planning documents. Provides Cost Benefit the basis for Analysis, Risk acquiring the

resources

needed to

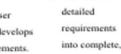
achieve a solution.





Analysis

Analyzes user needs and develops user requirements. Creates a detailed Functional Requirements Document.





Design

Transforms



Development

Converts a design

into a complete information system. Includes acquiring and installing systems environment; creating detailed System Design Document.and testing databases/ preparing test case Focuses on how procedures; preparing test files; coding, compiling, refining

programs; performing

test readiness review

and procurement activities.



Integration

and Test

Demonstrates

that the developed

system conforms

to requirements

Functional

staff and

Requirements

as specified in the

by Quality Assurance

Test Analysis Reports.

users. Produces



Implementation

Includes implementation preparation, implementation of the system into a production environment, and resolution Document. Conducted of problems identified in the Integration and Test Phase.



Disposition

Describes endof-system activities. emphasis is given to proper preservation of

Describes tasks maintain systems Reviews.

data.

to operate and information in a production environment. includes Post-Implementation and In-Process

Operations and Maintenance

Management

Feasibility Study.

Plan and

scope or



The Challenge

- Understand and interpret to make informed decisions
- Difficulty of comparing data e.g. due to different lifecycles, level of complexity or innovation...
 - Waterfall, Iterative, Agile....
- Project Complexity Analysis
 - Categorise Innovative, R&D, Implementation, Transformation
 - Methods initiating, planning, executing, monitoring & controlling and closing
 - Tailoring rules to allow comparison of data



The Challenge

- Need to **categorise** similar projects (complexity and lifecycle)
- Create established ways of working to allow data to be comparable
- Identify items to monitor using knowledge from lessons learned
- Cost to complete, Change Requests, Stakeholder participation, Resource availability, Change of PM

Examples could be

- Stakeholder involvement (Cust Rep/Product Owner) for Agile development
- Number of Change Requests in Waterfall projects for innovative design



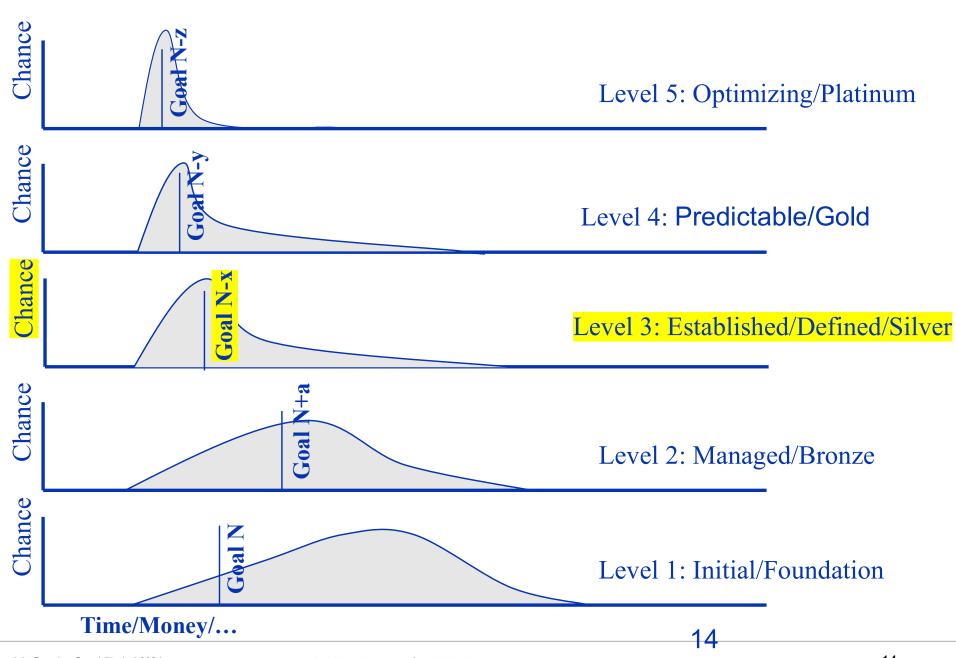
Tracking

- Project Status Reporting
- Dashboards
- Scorecards

Data

- Based on established processes
- Readily available
- Normalised to enable comparison
- Reliable
- Process Assessment (using ISO15504)
 - TickITplus/CMMI/SPICE to get **established** processes

Process Assessment & Maturity levels



TickITplus

DEVELOP CAPABILITY

The implemented process achieves its process purpose	The performed process is implemented in a managed fashion and its work products are appropriately established, controlled and maintained	The managed process is now implemented using a defined process capable of achieving its process outcomes
Foundation	Bronze	Silver
 PA 1.1 Process performance attribute a) The process achieves its defined purpose Production of an artefact A significant change of state Meeting specified constraints 	 PA 2.1 Performance management attribute a) Objectives Identified b) Planned and monitored c) Adjusted to meet plans d) Responsibilities & authorities defined, assigned & communicated e) Resources & information are identified, made available, allocated & used f) Interfaces between involved parties are managed PA 2.2 Work product management attribute a) Requirements defined b) Requirements for documentation and control c) Appropriately identified, documented and controlled 	 PA 3.1 Process definition attribute a) A standard process with tailoring guidelines is defined b) Sequence and interaction of processes is determined c) Competencies and roles are identified d) Infrastructure and work environment identified e) Effectiveness and suitability monitored PA 3.2 Process deployment attribute a) Defined process based on selected/tailored standard process is deployed b) Roles, responsibilities and authorities are assigned and communicated c) People are competent based on education, training and experience d) Resources and information are made available, allocated and used
	d) Reviewed in accordance with planned arrangements and adjusted	e) Infrastructure & work environment are made available, managed & maintained

Data are collected and analysed to understand the process and drive continuous process improvement f)

as necessary



Processes for management and software engineering are documented, standardized and integrated in a standard software development process

- All projects use an approved, adapted version of the standard software process for the development and maintenance of software
- Processes are used to let software managers and engineers be more effective
- There is training in the software process

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Agile – Customer Rep/Product Owner

	Req	Design	Implement	Testing	Release	RAG											
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Waterfall Req/Design phases – CRs

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Project 6	() 2				R											
Project 7		1 3	2 0	0	C	R											
Project 8		5 8	0	0	0	G											
Project 9		5 1	. 1	. 0	C	G											
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EWS Step 4 – Use KPIs and respond to EWS

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- Project Status Reports
- Project Reviews
- Phase Reviews
- Gate Reviews
- Checkpoints
- Health checks
- Dashboards
- Scorecards
- Audits





Summary



Move from compliance to performance by being able to predict project performance through project monitoring and your EWS based on previous project performance knowledge



The Vision

- We start to use the performance data to help us look forwards ...and
- Create a Vision to improve ...
 - Timely Planning
 - Effective resourcing
 - Stakeholder involvement
 - Manage project requirements
 - Monitor cost to complete
 - Manage risks

TickITplus



TickITplus website

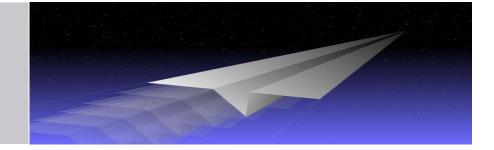
- https://www.tickitplus.org/en/home.html



- TickIT*plus* Training
- https://www.developcapability.co.uk/tickitplus/







Thank you

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