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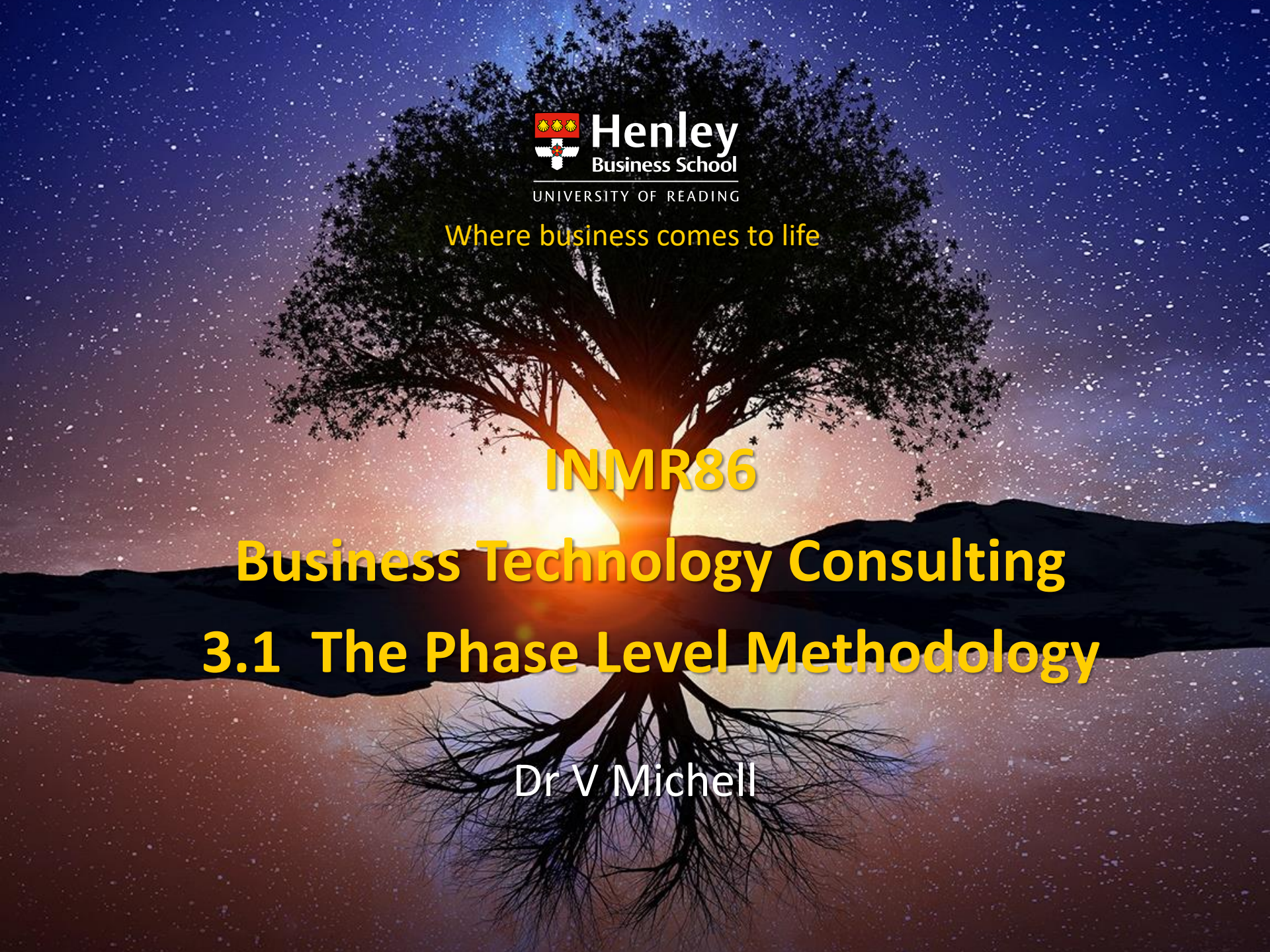
INMR86
Business Technology Consulting
3.0 Consulting Methodology:
Project & Solution Methodology
Dr V Michell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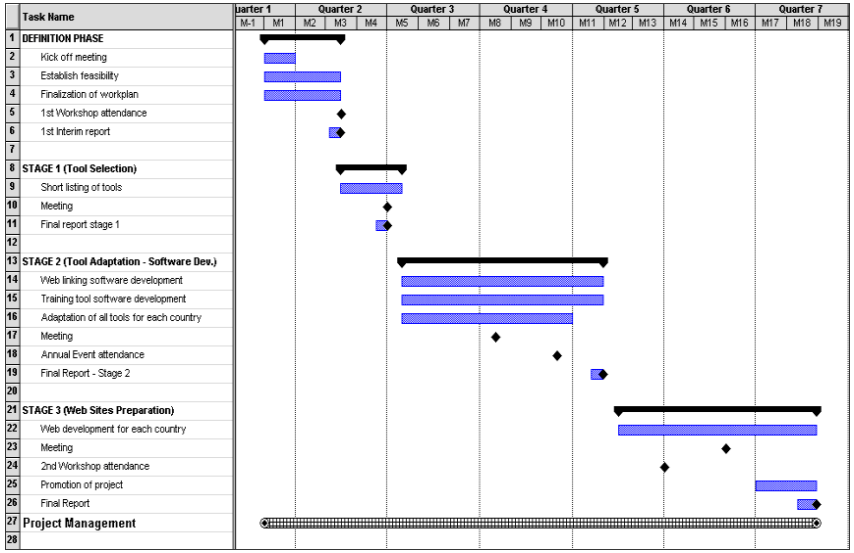
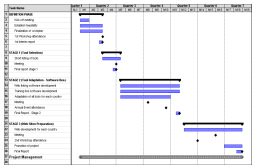
3.1 The Phase Level Methodology
Dr V Michell

3.1 Phase Methodology: The Phase Level

Consulting
PROJECT
MANAGEMENT



3.1 Phase Methodology: Generic Phases



Vischer - Most Consultants use a phase model in their consulting work

Generic Phases (eg client problem solving approach)

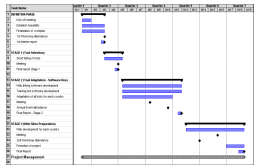
- Problem Clarification
- Diagnosis
- Solution Generation
- Testing
- Evaluation
- Implementation

Phase model advantages

- Cognitive path to guide consultant
- Educational
- Socially communicate to clients what consultants do
- Tools for project/progress management

Note: they are a tool and are not always followed strictly

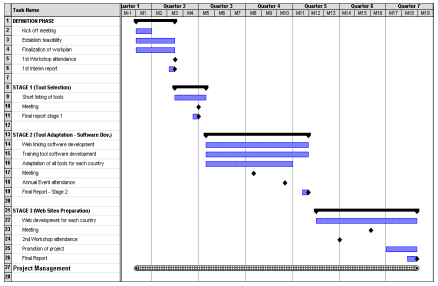
3.1 Phase Methodology: The Phase Level (cont.)



Phase Level

The phase level methodology refers to:

- A valid generic sequence of activities
- Abstract and generic
- Applicable to a range of situations



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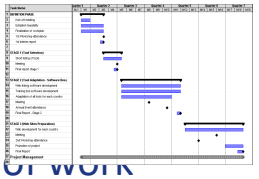
3.1 Phase Methodology: The Phase Level



The **phase level relates to a work order or set of work orders** to deliver a specific piece of work or project

… Managing the phase typically means managing a project!

Objective

- Understand the work content
- Develop and manage the project lifecycle
- Ensure accurate and timely response to risks and issues
- Manage project performance and quality

Benefits of separation

- Ensure complete project management
- Enable management of a portfolio of projects
- Enables the identification of key phases and work need
- Independent quality and progress audit
- Project management independent of solution/expertise needs

Consulting
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Benefits of the phase concept

- Cognitive path to guide consultant
- Educational
- Socially communicate to clients what consultants do
- Tools for project/progress management

3.1 Phase Methodology: Phase Managers' Responsibility

The Phase Manager = Project and/or Programme Manager

Manages project resources (people, time, tools, money)

To achieve client deliverables they are focused on:

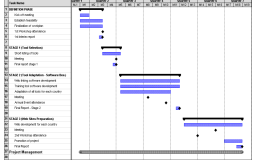
Deliverables vs.:

- Efficiency — is/was just enough resource expended? (time/money)
- Effectiveness — did it meet client need?
- Quality — did it meet the specifications?
- Risk — are the risks of failure identified and managed?
- Issues — are related problems all identified and managed?
- Changes — are the changes identified/agreed with the client?

NOTES

- They report to client counterparts and the engagement manager
- They may not understand the solution details or technology
- They ensure you get there! - *on time/budget*

3.1 Phase Methodology: Tasks in the Phase Level



The Phase Model: The plan of work will include:

Technical Approach & Methodology (the solution level)

- The approach taken and reasons
- The outline methodology to be used

Work Plan or Roadmap

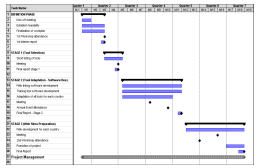
The work plan will depend on the technical approach & methodology

- High level tasks/workgroups
- Schedule of deliverables
- Contingency

Project organisation & staffing

- The project team(s)
- Resourcing and availability
- Roles/responsibilities
- Relationship to the client teams

3.1 Phase Methodology: Work Plan within the Phases



High Level tasks/Workgroups

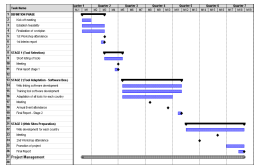
- Identify consultant and client workload
- Clearly identify and convey/agree client tasks
  - Objective
  - Deliverables
- Ensure the client and client teams appreciate the work/have the skills
- Remember to check client staff availability

Schedules/Timescales

- Client's view vs. need (they may have other work dependent on your deliverables)
- Politics – you need to make the client 'look good'
- The critical path (shortest possible time)
- Contingency – add 10-15%
- Add more for higher risk work elements

…See Architectural Leadership

3.1 Phase Methodology: Project Organisation & Staffing



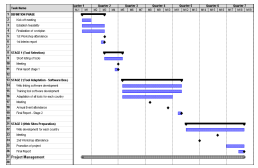
Qualifications

General qualifications
- Level of education
- Consulting experience/roles
- Match to client teams

Match to the Engagement
- Domain/sector experience
- Expertise
- Evidence #

Don't forget Availability + Cos

3.1 Phase Methodology: Project Reporting



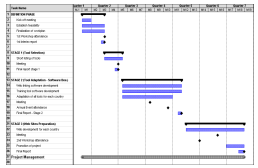
Reduce mis-communication risks by control and reporting

Control

Have a clear and well-communicated plan!
Create feedback loops
Define remedial actions
Allocate responsibility for those actions

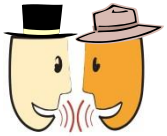
Reporting

Frequent
Accurate
Up to date



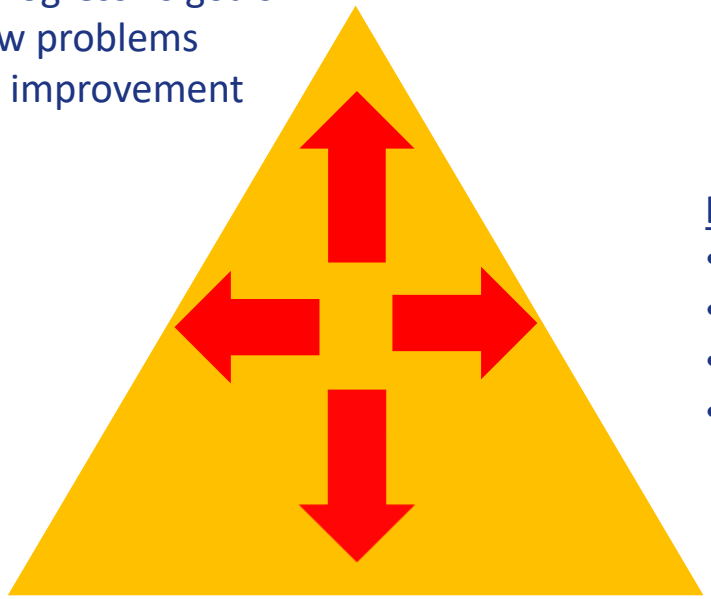
3.1 Phase Methodology: Project Reporting

Directing Communications



Upward

- Info on progress vs goals
- Relay new problems
- Ideas for improvement



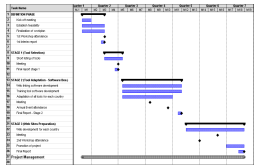
Laterally

- Facilitate coordination
- Ensure consistency
- Share knowledge
- Share feelings

Downward - management

- Assigning goals
- Provide instructions
- Raise problems
- Clarify points

3.1 Phase Methodology: Project Reporting



The project/phase progress will need to be reported:

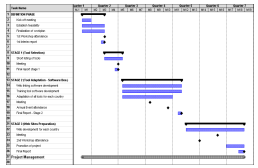
- To the client
- To the engagement level/engagement manager

- Manage Expectations
- Report good progress
- Manage issues
    - report clearly with solutions
    - act promptly to resolve
    - own up to failings

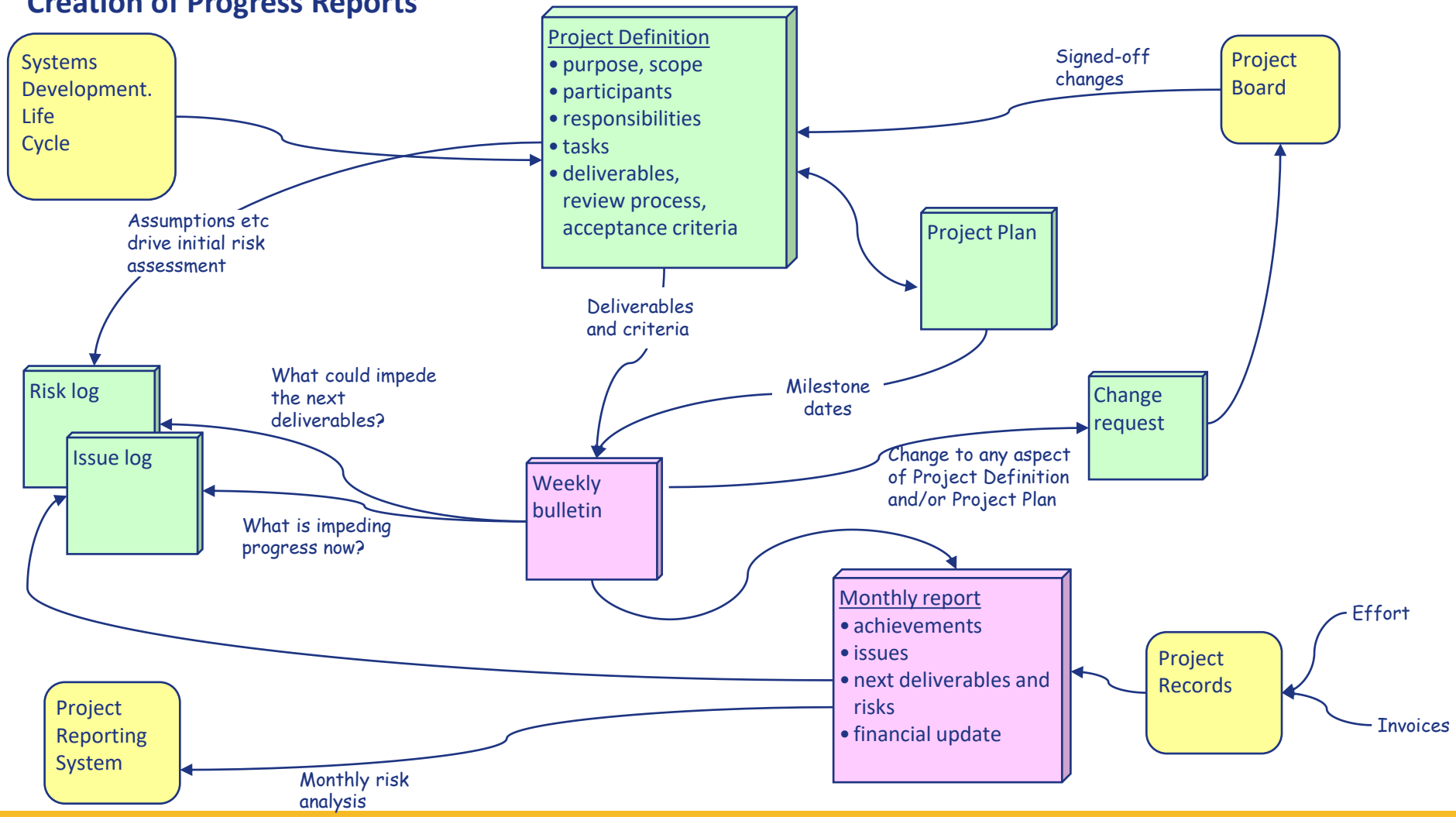
Ensure the engagement manager:

- handles the politics or political situations passed on by the phase manager
- smoothes/delivers issues found at the project/phase level

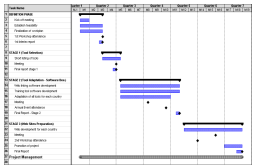
3.1 Phase Methodology: Project Reporting



Creation of Progress Reports



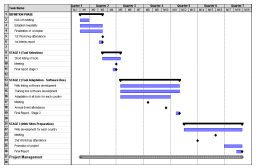
3.1 Phase Methodology: Project Reporting



Weekly Progress Reporting

		Weekly Project Report			
Report for period		**Week ending 15Jan 2010**			
Project Name		Project Amber	RAG Status		
Project Manager		P Dillon		RED	
Project Sponsor		A Belling		Amber	Potential delays up to 2 weeks due to equipment delays and illness
				Green	
Start Date		11-Dec-09			
End Date		18-Nov-10			
Tasks Completed		**Task Detail**	**Due**	**Actual**	
	Pr 12	Lead customer process analysis	12-Jan	11-Jan	
	Pr 13	Central processing interface meeting	13-Jan	13-Jan	
Tasks Pending					
	Pr11	Functional review	13-Jan	18-Jan	
	Pr14	Sequence development	15-Jan	15-Jan	
Risks	**Risk no.**	**Risk Detail**	**Action**	**Owner**	
	RP16	Server farm equipment may be delayed up to 2 weeks	chase vendor	P Ball	
	RP34	Lead C++ programmer illness may delay schedule by 1 week	Plan stand in	D Scone	
	Issue No	Issue Detail	Action	Owner	
Issues	IS 3	Span subroutine failed in test delaying task 5 by 2 weeks	Retest set for 18Jan	P Dillon	
	IS 11	Budget cut by 10% will result in extension of 3 weeks due to lack of cancelled testing resource (and illness of lead C++ programmer)	Reschedule as overtime	P Dillon	

3.1 Phase Methodology: Project Reporting



Cost Reporting

	Monthly Project Report - Costs						
	Report for period		**Month Ending 30Jan 2010**				
	Project Name		Project Amber	RAG Status			
	Project Manager		P Dillon		RED		
	Project Sponsor		A Belling		Amber	Potential GBP 34k over budget as costs have increased by GBP 2k and budget cut by 10% (GBP 32k) and schedule slipped	
					Green		
	Start Date		11-Dec-09				
	End Date		18-Nov-10				
		GBP				*GBP*	
	Budget	**320000**	*Full project to 18Nov10*	*CV*	**Cost variance**	-2000	*EV-AC*
	Direct Costs	185000	*Project labour + Technology*	*SV*	**Schedule Variance**	-7000	*EV-PV*
	Indirect costs	135000		*CPI*	**Cost Performance**	0.714285714	*EV/AC*
PV	**Planned value**	**12000**	*to end Jan (Labour + server cost)*	*SPI*	**Schedule Performance**	0.416666667	*EV/PV*
AC	**Actual Cost**	**7000**	*to end Jan 2010 (Server cost delayed)*				
EV	**Earned value**	**5000**	*work completed to end of Jan 2010*	*Work rate reduced due to failed test (retest needed) and schedule delay (illness)*			
	Issues	IS 3	Span subroutine failed in test extending task 5 by 2 weeks to end of month	Retest set for 18Jan	P Dillon		
		IS 11	Budget cut by 10% will result in extension of 3 weeks due to lack of cancelled testing resource (and illness of lead C++ programmer)	Reschedule as overtime	P Dillon		

Exercise 3.1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3.2 The Solution Methodology
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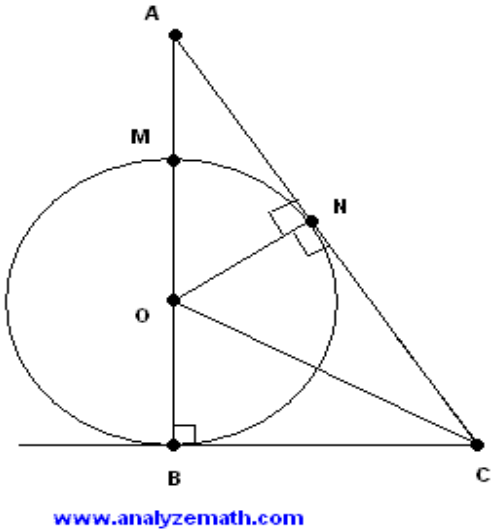
3.2 The Solution Level

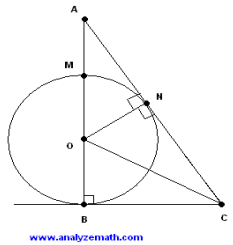


SOLUTION MANAGEMENT

3.2 The Solution Level

Objective

- Understand the solution context
- Identify and manage specific solution methodologies
- Ensure focused expertise driven response



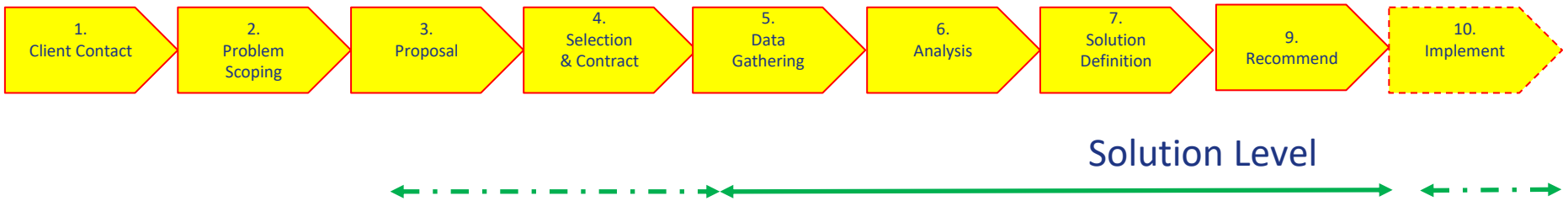
Benefits of separation

SOLUTION MANAGEMENT

- Focused management of solution performance and quality
- Enable **management of scarce and time critical experts**
- Enables **focus on specific solution methods**
- Ensures correct application of appropriate solution method Independent of project

3.2 Focus of the Solution Level

…focuses on the problem solving methodology



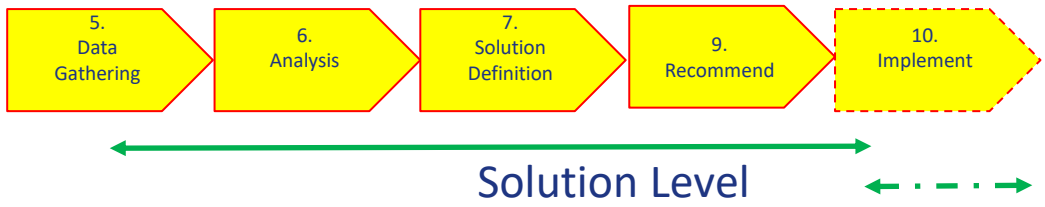
This level focuses on a solution driven methodology to meeting the specific needs of the client and delivering benefit and value

Examples

- Reengineer x
- Solve problem y
- Develop a business proposition
- Develop a new system z
- Implement packaged software eg SAP

…etc

3.2 Characteristics of the Solution Level



The solution depends on EXPERT KNOWLEDGE set in the context of:

- Correct articulation of the problem statement
- The identification of detailed client needs for solution development

5. Data Gathering

- The conversion of needs into requirements
- The modelling of the problem
- The decomposition into elements

6. Analysis

- Synthesis of potential solutions from requirements

7. Solution Definition

- The selection of the best solution approach/method that meets the requirements and benefits the client based on the Problem statement agreed with the client
- Deliverables realisation (report and/or implementation)

9. Recommend

3.2 Expert Knowledge Sets & Design Solutions

Expert	Knowledge base/methodology
•Enterprise architect	=> enterprise architecture
•Solution architect	=> BTC/BAITS
•6 Sigma consultant	=> 6 Sigma/kaizen methodology
•Change consultant	=> Change methodology
•SOX consultant	=> Sarbanes Oxley regulatory knowledge (SOX/Basel II)
•Management Consultant	=> generic problem solving/social science methods

They are concerned with:

- Applying the right expert method/tool at the right time
- Knowledge of a specific business domain
- Specific expert knowledge applied to the solution in context of the client environment and need. They follow a similar cycle focused on the solution:
    - Data Capture
    - Problem Identification Analysis
    - Solution Development
    - Delivery

3.2 The Solution Level

Content will vary with the chosen methodology and technology approach

Often solution methodologies will determine:

- what is done
- in what order
- …and when
- by whom
- how

They act as guides to analysis and decision making for client problem resolution

The next sections 5-7 will analyse an enterprise architecture based business technology consulting framework and solution methodology, developed by IRC

The solution focus is digital technology and alignment to business needed

Exercise 3.2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3.3 Solution Problem Solving
…Introduction
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3.3: Solution Problem Solving… Introduction

Problem Solving

3.3: Solution Problem Solving… Introduction

Content:

- Problem solving

Learning Objectives After completing this unit you should:

- Understand more about problem formulation
- Develop an understanding of what factors might be important
- Think about your own proposed method for formulating a headline problem statement
- **Prepare you for the problem definition lecture in Nodule 3**

3.3: Solution Problem Solving… Introduction

YOU MUST READ THE 3 PRE READING PAPERS FIRST

- *PS3 BuyukdamgacI G. 2003 Process of organizational problem definition…*

  http://www.sciencedirect.com/science/article/pii/S030504830300029X

- *PS37 Mast & Lokker 2012 An analysis of the Six Sigma DMAIC method from the perspective of problem solving*

  http://www.sciencedirect.com/science/article/pii/S0925527312002277

- *PS49 Conklin 2006 Wicked problems and social complexity*

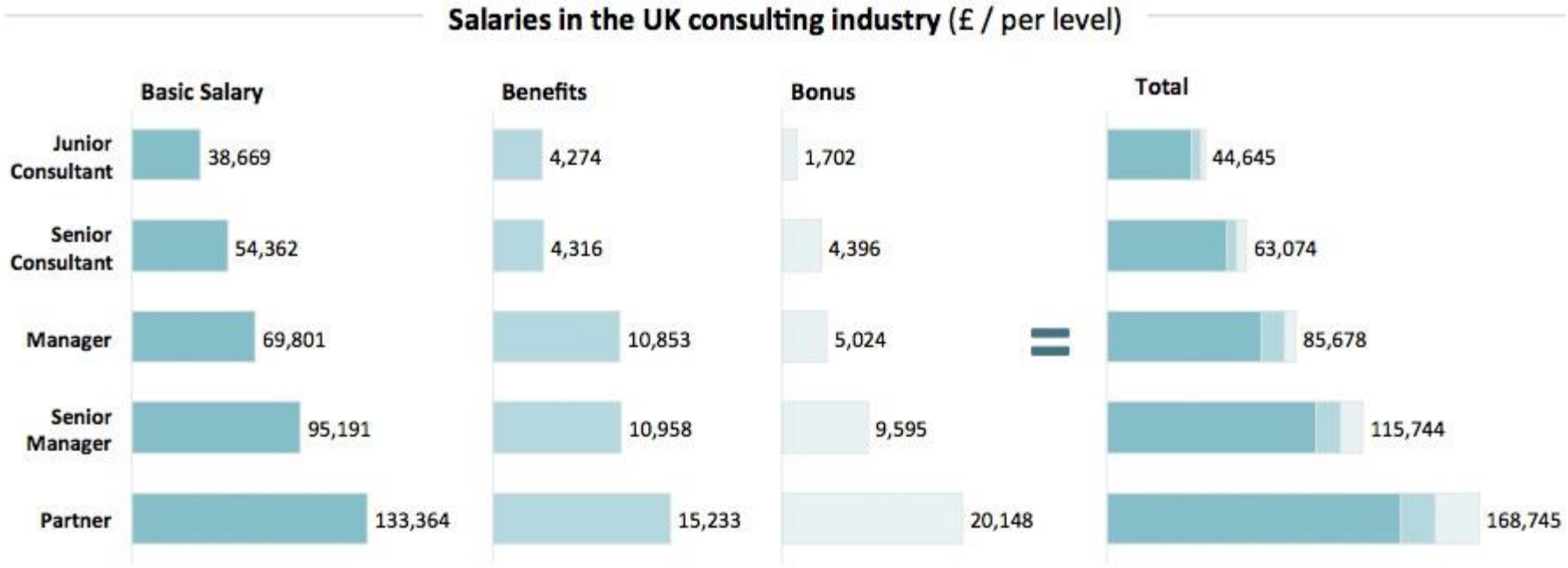
  http://cognexus.org/wpf/wickedproblems.pdf

PLEASE READ THEM NOW

3.3: Solution Problem Solving… Introduction

- Consultants are problem solvers, …problems are everywhere
- Solving problems can be a very profitable exercise

UK DAILY RATE FOR CONSULTANTS



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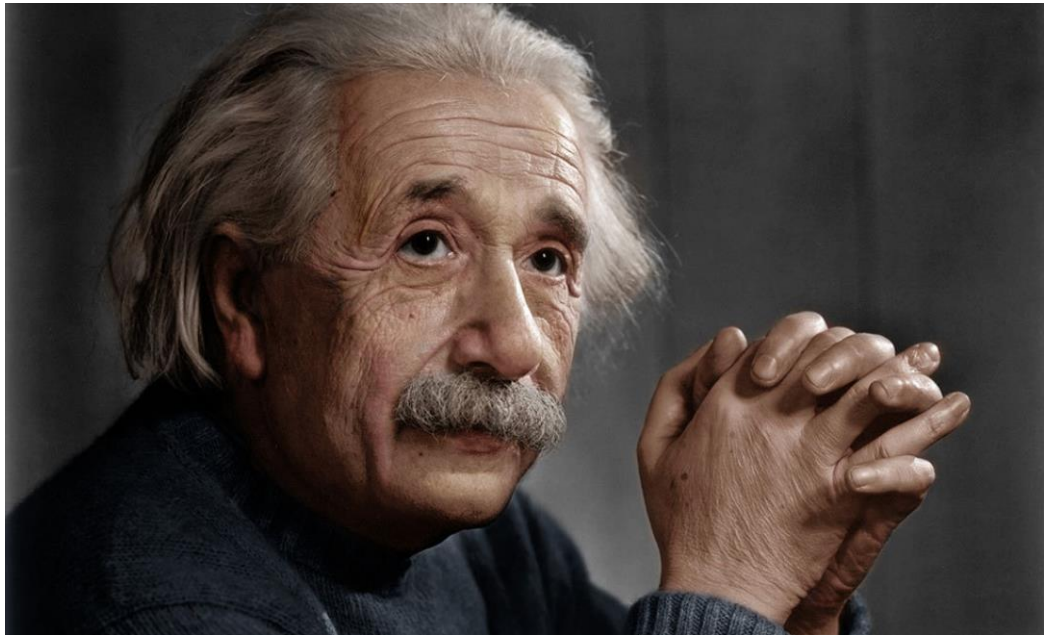
- https://www.consultancy.uk/career/salary-of-consultants

If you want to be a high earning consultant…. Problem solving is your goal!

3.3: Solution Problem Solving… Introduction

…consultants are problem solvers, …problems are everywhere

"the formulation of a problem is often more essential than its solution…", [Einstein]



https://medium.com/workandlife/einsteins-greatest-mistake-8838ca22e400

…So how can we improve problem formulation?

3.3: Solution Problem Solving… Introduction

…So what is a problem?

3.3: Solution Problem Solving… Introduction

…So what is a problem?

A business problem is a situation in a current state where :

There is something that is not as desired that would benefit the business if resolved

(i.e. a situation which is problematical)

3.3: Solution Problem Solving… Introduction

PROBLEM FORMULATION

Solving the wrong problem may prove more detrimental than ignoring the problem altogether'

https://www.morningstar.co.uk/IntroPage.aspx?site=uk&backurl=https%3A%2F%2Fwww.morningstar.co.uk%2Fuk%2Fnews%2F202592%2Fwhy-are-companies-asking-investors-for-money.aspx

eg

- *Run out of resources (money, time),*
- *wrong problem => unrequired solution => no payment to consultant*
- *Locked into a bad position*

…So we need to convert information/narrative about a problem into a problem formulation

3.3: Solution Problem Solving… Introduction

PROBLEM FORMULATION

Problem formulation involves concisely defining the structure and information factors (types and groups of information) important to the problem in a headline problem statement that contains minimum necessary and sufficient Information to work on and resolve the problem

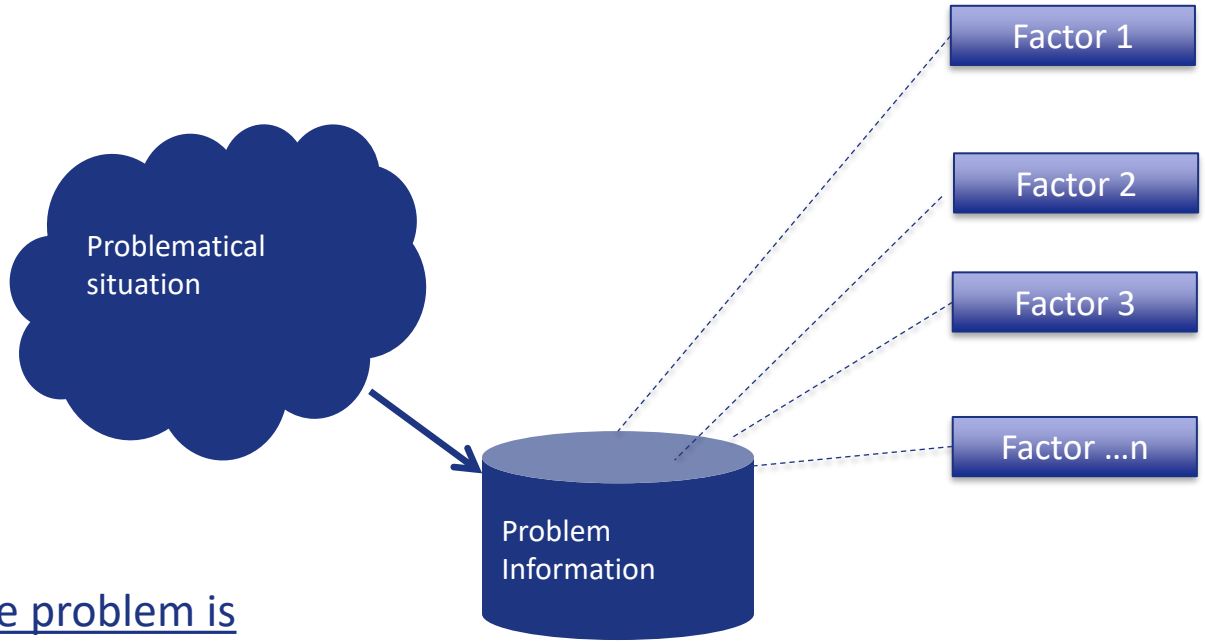
Factors = information grouping/structures that influence our understanding of the problem

…So we need the right groups of information presented in the right way to help direct the problem solving process

3.3: Solution Problem Solving… Introduction

DISCUSSION:

*What are the groups of information or factors needed to formulate or describe a **general problem** to enable its eventual solution?*



Note – focus on what the problem is not the solution!

3.3: Solution Problem Solving… Introduction

Example of what is needed:

If I want to travel from here to London what information factors would I need?

NEED 'WHAT' NOT 'HOW' INFORMATION

Eg

…What is your starting/ending location?

… When to arrive?

…How long to get there/how to arrive?

…what conditions?

… what with?

Then …why/when etc

https://www.telegraph.co.uk/cars/classic/carry-cabby-austin-fx4-london-taxi-60/

https://www.motorcyclenews.com/advice/buying-selling/how-to-buy-a-used-motorbike-/

https://www.npl.co.uk/space-rocket-challenges-2020

3.3: Solution Problem Solving… Introduction

Exercise to Improve Problem Solving Skills: **Problem Formulation**

Analyse problem patterns and produce
I) A list 8-10 Key generic factors to look for in the information about <u>any problem</u> that helps your analysis and the reasons why they might be useful

The 10 factors are…. *Because….*

1 Goal/Objective *we need to know what is the focus of the problem*
Why?

2 xxx
3 xxx
4 xxx
5 xxx…

ii) your version of a formula for building a high level problem statement that works for <u>any problem</u>, using these factors that could <u>guide</u> the development of a general problem solving solution

Any problem can be stated in the following form using these factors …

3.3: Solution Problem Solving… Introduction

Problematical situation

Problem information

Problem Formulation Information Factors to look for +
Formula for Headline Level Problem Statement

READ/USE…

Headline Problem Statement (Problem Definition) + 10 factors

Factor …n

3 Problem examples

Routemaster Problem Information

Grubbox Problem Information

Weighcom Problem Information

+

3 Papers

Problem Solving PAPER 1

Problem Solving PAPER 2

Problem Solving PAPER 3

+

Your Views

3.3: Solution Problem Solving… Introduction

TUTORIAL EXERCISE to Improve Problem Solving Skills: **Problem Formulation**

PLEASE Email the Problem Formulation Sheet to v.a.Michell@henley.ac.uk

Ready for your next tutorial discussion/workshop

3.3: Solution Problem Solving… Introduction

Problem Formulation Exercise Plan Timetable

1) INDIVIDUAL VIEWS This lecture
- Read the 3 papers Read the 3 cases (or see blackboard)
  - review/discuss

2) ***PLEASE complete and Email the Problem Formulation Sheet to v.a.Michell@henley.ac.uk***

3) Compare and discuss with your fellow students=> agree a general solution

4) Complete the Questionnaire and email to v.a.Michell@henley.ac.uk

5) Tutorial Discussion in Nodule 4

Exercise 3.3