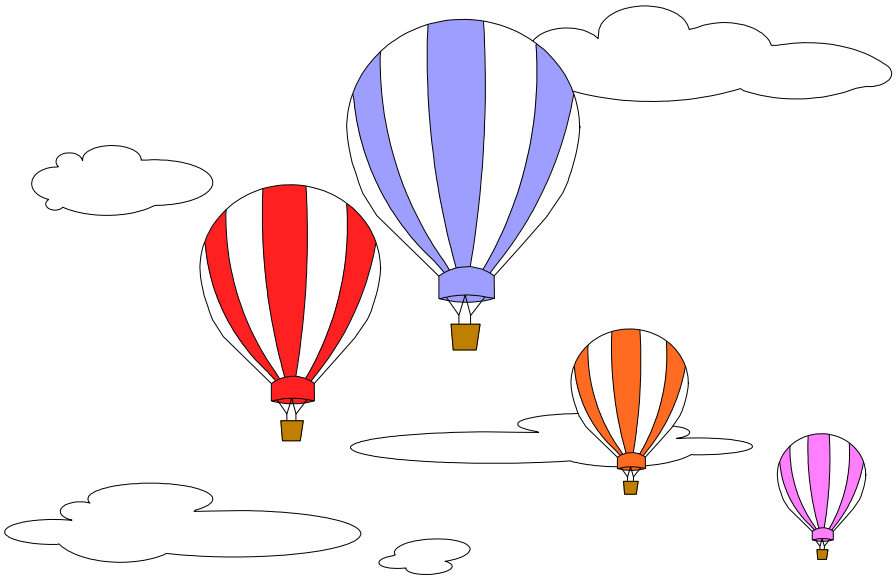
JETPRO

Project Management Seminar Workbook



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Metanaction

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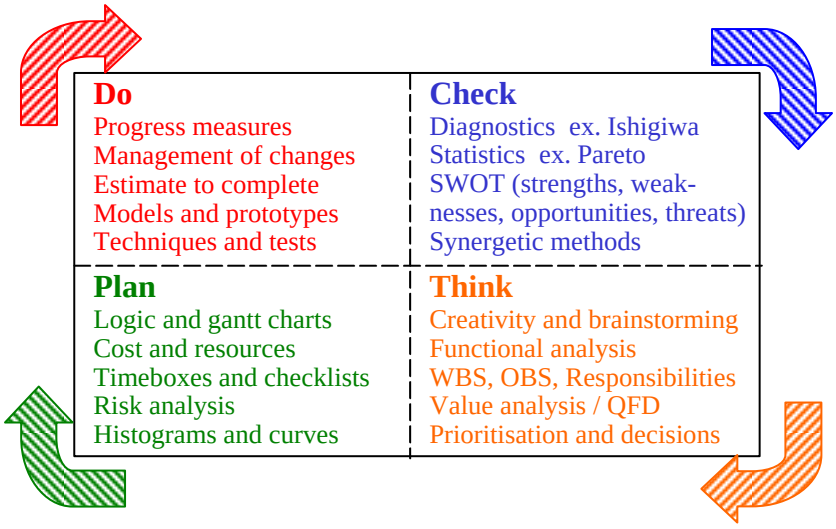
PROCESS

Initiation	Definition	Design	Development	Deployment
Check	***Think***	***Plan***	***Do***	***Check***
Why ?	*What ?* *Who ?*	*When ?* *How Much ?*	*How?*	*What else ?*
Position the project strategically Study the feasibility Create a vision Understand the opportunities and the risks Identify customers and partners, their needs and benefits Define the scope and identify the key success factors Consider the competition Determine the unique selling proposition	Define objectives and agree priorities Agree on a basic business model Structure and organise the project Produce a work breakdown structure Specify deliverables Identify team members and agree on responsibilities Assess the risks Produce a communications plan	Agree on solutions Plan the project Establish a budget and schedule baseline Specify interfaces and transitions Define a quality assurance plan Produce a functional model	Develop and deliver solutions Validate and test frequently Manage the technical configuration Measure progress Communicate progress	Implement and deploy solutions Promote solutions Review outcomes and learn from experience Document the project Train the customers
Forming	***Storming***	***Norming***	***Performing***	***Transforming***



METHODS

Most of our current project management methods matured on large projects during the 1960s and were widely adopted on smaller projects as computing capabilities evolved during the 1980s. Between 1990 and 2010, whilst project management flourished on personal computers, integration with business processes proved more challenging due to the unique and innovative nature of projects. Initially project management methods focused on technical complexity and time management. Increasingly, project management has learned to respond to unpredictable business pressures and ever more institutional complexity. This generates more projects where the amount of work necessary to understand the requirements rivals the amount of work necessary to actually develop the project and deliver on the requirements. Specifically, competencies such as risk management, user-focused design, multi-disciplinary teamwork and customer responsiveness have come to the fore and this is where organisations are seeking competitive advantage.

The 'Agile Manifesto' summarises four principles that contribute to a more iterative and less sequential form of project management:

- *Individuals and Interactions* over processes and tools
- *Working Results* over comprehensive documentation
- *Customer Collaboration* over contract negotiation
- *Responding to Change* over following a plan

The sequential approach implies : a fixed specification which is agreed by the parties and which forms the basis of a contract, tight controls at the end of each major project phase (initiation, definition, design, development, deployment), tight definition of roles and interfaces, test and acceptance at the end of the project. As a rule, the organisation is hierarchical and communication between partners and disciplines is relatively formal.

The iterative approach implies: working with the client or the customer, cooperation and trust, frequent validation, verification, inspection and tests all the way through the project life cycle and is focused on critical success factors, flexible team work and the ability to include changes during the project. The team is often co-located and communication spontaneous.

The latest norms (ISO 12203 – software engineering and ISO 9001:2004) are shifting the balance towards iterative methods. However, each project should be judged on its merits. In general, iterative methods are suitable for situations which are urgent and innovative, where users are available early, and where the structure does not penalise changes during the project.

The principles which are necessary for the success of an iterative project (like Atern on dsdm.org – Dynamic Solutions Development Method):
Focus on the 'business' need (business goals instead of functional scope)
Deliver on time (timeliness is considered more important than low-priority features)
Never compromise quality and demonstrate control (good management of an evolving scope)
Collaborate; communicate continuously and clearly (a dialogue that includes value and cost)
Build incrementally from firm foundations and develop iteratively (frequent synchronisation)

It is strongly recommended to agree on some principles, or ground rules, at the start of any project. The kind of subject which may be appropriate:

- relations with management committees (voice of the customer, visionary, owner),
- client relations (support, availability, sharing, participation),
- behaviour of team members (responsibilities, commitment, open communication),
- resources (space, time, budget, tools),
- goals (measures, durability, evaluation).

PROJECT BACKGROUND

The background to projects is essentially organisational and competitive:

Organisation:

Understand the key factors: What is the goal? How will the results be measured?

As a rule, the company concentrates on return on investment and market share. These two factors contribute to the value of the company's output and thus is market value.

But, that's not all. What is also important is the ability of the company's staff, the value of its technologies, the loyalty of its clients, its reputation as a corporate citizen, its ability to invest effectively in new opportunities, and to leave unproductive activities.

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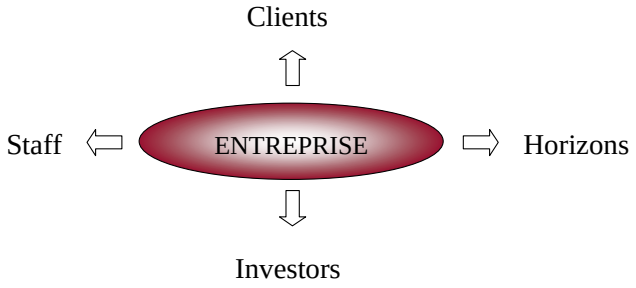


Experienced entrepreneurs can give you valuable advice: "Never run out of cash !"

All these factors can be measured. For example : liquidity, price, market share, durability, R&D investment, client satisfaction, problems encountered, number of ideas proposed by staff, ability to launch new products, profitability, sales, defects, tests, number of interfaces, duration of development or delivery, etc.

A product which is available, at the right price, which meets a need, and is known by the client: these are the '4 Ps' of marketing (product, price, position, promotion).

The reality of competition requires that one of these dimensions should be unique. The challenge for new technologies is to recognise and meet latent needs. This requires an intuition for trends and the quality of life. What ensures the success of a new product?

REQUIREMENTS DEFINITION

1) Defining the needs for a product, a service, a system or other solution

A need can be a *necessity* or a *perceived want*. A need requires actions in order for it to be satisfied, and generates *expectations* which must be managed in order to generate satisfaction for users. The result is what is provided to users to satisfy their needs and meet or exceed their expectations.

2) Taking the point of view of the users or the business

- From the user perspective, requirements are classified into three categories: *primary*, *secondary* and *tertiary*; or *must haves*, *should haves* and *could haves*. According to the theory of motivation, if a primary need has not been entirely satisfied, neither can a secondary need.
- From the point of view of the business, requirements that are clearly expressed by users and defined in the functional specification are *explicit*, those that the customer feels but cannot or will not express, or those that are generally acknowledged, are *implicit*; potential requirements that are not yet identified, revealed or acknowledged are *latent*.

3) Organisation and classification

- How to organise the requirements? The origin of requirements is important and involves an appreciation of what is meant by the words 'user' or 'customer'. The customer could be considered to be the buyer, but when developing products, it's worth taking into account all the stakeholders who participate downstream of development can contribute requirements, from the design office, via production, logistics, marketing, right through to the end user, support services and after sales.
- To develop the requirements of all of these parties, the words "gather" and "express" may not be adequate. In practice, the *elicitation* of requirements implies a methodical approach to requirements analysis and definition. Due to the inevitable divergence of interests – costs, schedule, functions, and quality – the priorities must be studied, qualified, negotiated and converged between the stakeholders. Project governance will be important.
- Methods such as functional analysis, value analysis and risk analysis help to reach agreement on priorities. However, no analysis is complete unless the environmental and organisational contexts of each stakeholder, the constraints, options and preferences have been included.
- Practically, methods such as site visits, user observation, experiential studies, conceptual models and physical prototypes, open interviews and 'focus groups', simulations, role plays, trials with different kinds of user, process scenarios, standards and benchmarks, questionnaires and surveys, all offer advantages and disadvantages, and a cost in time and effort that must be managed.

4) Using creative methods to define requirements

Asking questions, developing answers, imagining, exploring and experimenting are all necessary steps to identify creatively a significant proportion of the requirements. The creative approach starts with diverging, generating quantities of ideas, before converging and relating the needs to resources. However, unless there are constraints and purpose this method will not identify the whole set of requirements, at each step, and according to different conditions of use, and taking account of different circumstances. The more the elicitation of needs is comprehensive, the more the solutions created will be fit for purpose.

The ‘Blues’ method is an example of an approach that develops ‘brainstorming’ further:

B = Brainstorming (free ideas association)
L = Life cycle (think about what happens at each step from design to recycling)
U = Usage cycle (think about what happens at each step in a usage scenario)
E = Extreme use (what happens under extreme conditions of different sorts)
S = Standards (take account of standards)

Other approaches focus on:
Nature of the physical architecture: Material, system, process, service
Actions: movements, transitions, transformations, articulations
Interfaces: people, objects, environment, resources

Studying each step in the life cycle reveals requirements that go from project initiation, feasibility, design and definition, development, tests, industrialisation, qualification, certification, production, logistics, marketing, sales, after sales, maintenance, recycling and elimination.

Studying the cycles of use identifies requirements such as using the product or service, transportation, carrying, display, packaging, storage, unpacking, installation, deployment, mobilisation, handling, adjustment, calibration, interactions, demobilisation, stand-by, repacking and re-storage.

5) Questions for eliciting needs

In order to consolidate each requirement, probing questions are asked: Who will use it? To whom will the product provide be useful? To what end? What’s the purpose? What must it do? On what does it act? What can make it evolve and within what time period? If the product had to do one thing, what would that be? What must it do to be useful? What value will be added by this function? How will we extract the value? How will return on investment be assessed? Answers are available if good questions are asked.

6) Needs are developed progressively, whilst ensuring traceability

From the unsatisfied needs and problems identified, via the overall vision and purpose, the necessary constraints, the functional requirements defined by clients and users, the non-functional requirements (dimensions of service qualified by experts), and the technical requirements, to the end solution, there must be compatibility. For example, if the overall impact is to be increased customer favourability, the functional requirement can involve a greater degree of reactivity, say within 24 hours, and the technical requirement may imply that the there should be a telephone contact within 30 seconds of the phone ringing. A need well-defined is clear, concise, non-ambiguous, measurable, verifiable, testable, and aligned with overall goals.

Function	Categories	Criteria	Level	Flexibility	Importance

INITIATION

CHECK : is the project justified ? WHY is it desirable ?

Gather information concerning the project. Organise the information. Understand the scope of the project.

1) Describe the project in one phrase. Give a name to the project.
The summary phrase is a good way to ensure that all the stakeholders sing in unison.

2) Specify the budget and the schedule for the project.
The schedule, the costs, as well as the dimensions of quality define the overall scope.

3) Position the project
Justify the commercial approach and the USP - 'unique selling proposition'. Position the project in relation to the business strategy.

4) Give at least <u>three</u> good reasons for doing the project.
These will be the principal benefits for the project, possibly including more than one stakeholder.

5) Identify at least one risk or critical success factor.
Are there any reasons not to do this project ? Are there any better alternatives ?

6) Mention the necessary environment, partners, international factors, or constraints.
A project takes place in an environment and against a background which may be complex.

7) Articulate and sketch out a vision for the team and for the project.
This will help to build the team and to develop a shared team culture.

As project manager, your job is to manage the essentials. It's the principle of exception reporting. Data must be organised and necessary information identified. Being implicated right from the start, you understand the project goals. In this way you are able to lead the team towards effective decisions as the project advances.

No organisation is perfect. No project has perfect information. Nevertheless, you should be be aware of the information as soon as possible in order to allow yourself the time you need to take decisions.

You must ensure that support is available for the project from those who need to obtain benefits. In other words, the benefits must be more important than the costs, and the project must deliver more value than the alternatives.

INITIATION

0 Name and Description of project	**Project Roles**

Σ Overall Budget	**Delivery Dates**

Positioning and Unique Selling Proposition

Three Key Objectives

-
-
-

Two major risks / key success factors

-
-

Basic environment	**International aspects**	**Stakeholders**

Vision

STIMULATING CREATIVE WORKING

Principles

The word 'brainstorming' used in creative activities suggests ways to make a group more creative by promoting plenty of participation, for example, and an all-out search for ideas before returning to normal reflexes such as, filtering, criticizing and focusing.

Creativity may be perceived as an exceptional activity, but also frivolous and ephemeral. However, we use some creativity every day and constantly. Creativity is not exceptional, but essential to our daily lives. Given this, we can conceive of different ways of thinking to enable openness to ideas, imagination and inspiration.

It is worth summarizing the basic principles of 'brainstorming' which is all about separating the search for ideas from the selection of ideas. This generates a lot of ideas, which we can review later on, casting out the less favoured ideas and keeping the favourites. However, there should be no censoring to start with, because an odd idea can lead to an insight, a breakthrough or a breach:

i. The quantity of ideas is important – no censoring whilst diverging
ii. No premature judging: give each idea a chance to breathe
iii. Write down each idea (several people can take notes)
iv. Build on the ideas of others – each adaptation should add value
v. Choose the ideas once the base sample is large enough

Techniques

There are very many brainstorming techniques and countless variations on 'brainstorming'. Here are a few approaches that can stimulate the neurons of a development team:

Performing an Imaginary Future Success Interview
Imagine celebrating or explain future success

Using Words or Images as Metaphors
Strike a connection to any word or image

Looking for Trends
Combine contemporary trends and current news to the problem

Varying Attributes
Start with the idea, object or service and change the attributes to improve

Making Combinations
Combine two or more ideas to come across something new

Challenge all Assumptions
Prejudgments limit creativity

Give yourself a Constraint
Impose a constraint to guide creativity in inspirational ways

Imagine the Opposite
Seeking the opposite of the obvious can stimulate practical ideas

Ask an Imaginary Person
How would this person or that profession solve the problem?

Performing an Imaginary Future Success Interview

Ask questions: What's the best thing that has happened to you thanks to this success? What motivated you? What was the first step that you took? What was the first obstacle that you overcame? Who helped you? What was the most important part of your success? What advice would you give to someone else?

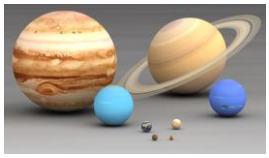
Using Words or Images as Metaphors

Start with a list of words chosen at random, a dictionary, a collection of pictures from a magazine or arbitrary objects. Focus on the problem to solve and use the list of words and the collection of pictures and objects for inspiration.

Looking for Trends

List and explore relevant trends. Use Google/trends
Or visit newspapers from other countries: paperboy.com
For example, health, connectivity, ecology

Varying Attributes

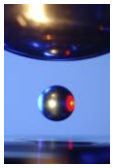


Change one or more dimensions, make it more simple or complicated, more or less colourful, easier to access, adapted for disabilities, more stable, resistant, asymmetrical, balanced, segmented, mobile, hydraulic, mechanical, flexible, lean, modular, composite …..

Making Combinations

Two disparate functions can give a new function or business model; two types of tools, clothes, books, vehicles, services, a marketing scheme from one business, a logistics concept from another ……

Challenge all Assumptions



Defy stereotypes and prejudice. Accept no limits. Imagine unlimited Resources, that you are the Formula 1 of your business and that Anything is possible, and then go back to the limits afterwards.

Give yourself a Constraint

Impose a constraint to channel creativity in unusual ways. Oblige yourself to design around a cost constraint, or capacity, or a design obstacle, or using different materials or process assumptions (this is about deciding what box to be inside).

Imagine the Opposte

What would we do to make things worse or even to create a bad solution ? It's surprising how many ideas can be generated by breaking free from standard thinking patterns. Of course, any ideas will act as inspiration to find something useful.

Ask an Imaginary Person

An engineer seeks functionality and effectiveness.
A designer aims to create an agreeable and suitable experience.
A marketing person focuses on an identity and a brand image.
A salesperson emphasises what is distinctive and unique.
A financier insists upon a return on investment and a margin.
A nurse, an architect, a farmer, a fisherman, a pastor would take what perspective?

DEFINITION

THINK : Establish the WHAT. Make effective choices. Team work is essential. The team analyses the problem, and makes decisions concerning budget and cost.

You should agree on the method for measuring progress and performance. For example, how will you know if the project has succeeded ?

1) Decide on a suitable business model
Who will be the customer for the project ? On what basis are you going to design, build, test and market the product ?

2) Define the principle objectives
Ensure that the objectives and the business model are aligned, and also that the objectives are aligned with the corporate business strategy. Objectives should be specific, measurable, agreed, realistic and time-phased. They should also be prioritised.

3) Specify key events and deliverables
Deliverables are material and physical, where as key events can be contractual. Both come under the heading of project milestones.

4) Define the Work Breakdown Structure
Define the structure of the project, in terms of the products and the services which determine the work packages. The work packages describe the work which has to be done. They take account of the complexity, the quantity and the importance of the work.

5) Produce a Responsibility Matrix
Decide who will do the work, who will be responsible, and who will be informed.

6) Identify potential risks and actions to tackle the risks
In project management terminology, risk means opportunities and threats. The impact and the probability that the risks will occur should be evaluated. How can the impact and probability be reduced ? What should be done if the risks occur ? What actions will be necessary ?

7) Prepare a change management plan
A team should not just turn inwards. It must keep an eye on external conditions and influences. You need to manage the effect that the change may have on different people, who will perceive the change in different ways and may be at different stages of maturity with regard to their own transition. Furthermore, management and clients must be kept informed.

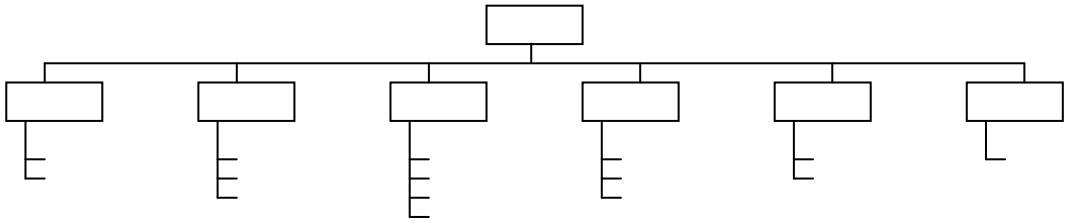
This step is like a ‘business plan’. You have the possibility to influence results, but you lack knowledge. You need to gather as much knowledge as possible as soon as possible from many sources. It will be necessary to find a way to measure, to verify and to test the results. The most important perspective is always that of the client, or else the end user. Indeed, all those who are downstream are in some way clients.

DEFINITION

0 Name and Description of project	**Stakeholders**
$$ Preferred Business Model	**Key Events** • • • •
Principle Objectives • • • • • •	**Deliverables** • • • • • •
Σ Work Breakdown Structure and Responsibility Matrix	
Risks	
Change Management Plan (internal and external dependencies)	

WORK BREAKDOWN STRUCTURE

The work breakdown structure is presented as a tree structure:



This tree structure specifies all the tasks which are necessary to satisfy the objectives of the project. Typically, the first level presents the main modules necessary to deliver the principle functions and to satisfy all of the projects objectives (i.e. meeting or exceeding expectations according to measurable criteria). It includes management (cost, schedule, quality), design and development of process and product, tests, tools, training and documentation.

Organise these modules on a wall chart. This is a team task and 'post-it' notes can help the team to work together. Add a second level and a third level if you think that this is justified by the complexity of the work. The last level of each branch should designate a single responsible person or entity. The last level defines the work packages.

It's a little like the chapters of a book with content defined at a high level before developing the detail. Meanwhile, working on the detail generates information that will be consolidated afterwards within the structure.

The Work Breakdown Structure can also be perceived as a shopping list. In other words, we decide what we want to buy before deciding where and when we wish to make the purchase, and eventually who will manage each work package.

Dates and technical content are specified and described at this level. Risks are analysed at this level, interfaces and deliverables defined.

Furthermore, you can allocate costs to work packages: direct working hours (internal and external) and expenses, purchases of materials, equipment and packaged services, indirect costs. In fact, anything that is not in the work breakdown structure does not get a budget.

The Work Breakdown Structure helps to build the team. The team should concert and negotiate in order to decide upon scope, functionality, risks, budget allocation and dates. However, remember that the details of schedule will be tackled during the next step.

A way to make the Work Breakdown Structure even more creative is to ask people to draw the content of the project in any visual way that they choose. If they do this independently, there will be different versions, which can be quite enlightening. Technical connections and inter-relationships can also be drawn.

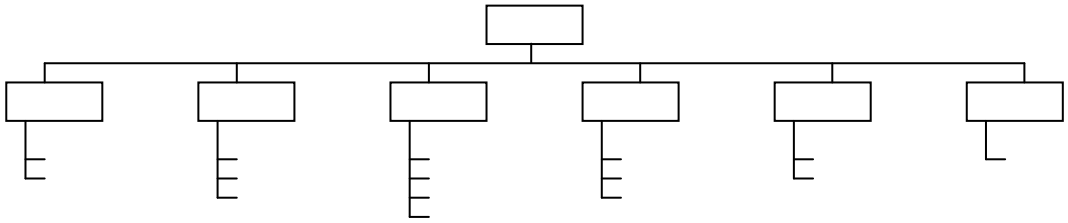
Overall, good practice is to focus on product, results and deliverables, including necessary services, before considering project support activities. In this way the solution scope is defined before the whole project scope. A project that has never been done before will often be organised by phases. However, it is still necessary to concentrate on tangible results.

RESPONSIBILITY MATRIX

Now identify who will be responsible for the work, who will intervene or be informed, who will receive outcomes or benefits, and who will execute the work.

This is your decision. It depends upon how you delegate and manage risk. It also depends upon the relation which you wish to establish with the other project participants. Can you trust them to complete the task, or do you need to closely supervise?

Map the responsibilities onto the work packages using (R) for responsible, (A) for accountable or authorizing authority, (S) for executes or supports, (C) for gets consulted, and (I) for intervenes or informs.



	R	I	I	C		C / A
	S	R	S			I / A
	C	S	R		S	I / A

Defining the Responsibility Matrix is another very effective way to align and to build the team.

TEAMWORK

T **(Target)** - a clearly defined and shared goal

E **(Empowerment)** - authority to act towards agreed goals

A **(Attitude)** - team spirit and a sense of shared commitment

M **(Mutual support)** - external support from client and management

W **(Working tools)** - creative, analytical and operational teamwork tools

O **(Organisation)** - a structure which is adapted to the task

R **(Recognition)** - an adequate reward system

K **(Knowledge)** - access to necessary information

One of the essential differences between a team and a group is that a team has a shared sense of priorities. This can take time to construct.

The 'forming, 'storming', 'norming', 'performing' is a well-known model for explaining how a team matures. At each stage the team has different needs :

Stage	Requirements	Style of management
Forming	- leadership, form, clarity, boundaries	directive, distant
Storming	- encouragement, coaching, exploration	directive, close
Norming	- practice, guidelines, values, sharing	participative, close
Performing	- continuation, trust, recognition	participative, distant
Transforming	- growth or change	adaptive

The Belbin model discerns different individual approaches to working in a team :

Relational People	*Ideas People*	*Organization People*	*Action People*
Networking type	Creative type	Coordinating type	Starter type
Team-working type	Analytical type	Task-working type	Finisher type
Check / Form	*Think / Storm*	*Plan / Norm*	*Do / Perform*

MANAGING YOUR OWN TIME

There are two ways to look at this subject. Firstly, some common sense ideas for organising your time on a day on a day to day basis. Secondly, some ideas for making things worse! This could inspire you with the desire to avoid the pitfalls.

(1) Manage your day:
Know your priorities and work towards your priorities (separate tasks into urgent and important). Concentrate on the 20% which delivers 80% of benefits. Recognise the situations where you are efficient and comfortable (space, time, surroundings). Organise your environment to meet your needs. Communicate with people on whom you depend, and who depend on you. Understand your changes of rhythm, one task at a time, or several tasks in parallel. Repeat what works for you. Example: gets things started, and get things finished, handling the start and the end of a task are vital. Fix realistic and even conservative objectives (do not promise more than you can deliver). Break tasks down into chunks. Use simple and customised tools to list tasks and progress towards goals. Offer yourself rewards which will stimulate your energy. Manage your energy and recognise the sources of your inspiration. Let time take care of itself (often others will slip their targets and give you breathing space). Know your capacities and your limits. Identify where you may have float, buffers, reserve, contingency or stock. Be faithful to your core values and know what counts for you. Put things in perspective: what will be important in one year's time.

(2) Mess up your day:
Accept non-essential tasks without question. Propose non-essential tasks. Forget to ask questions to others about the urgency or importance of the task. Forget to listen to help or instructions. Give your self unnecessarily complex or difficult tasks. Tackle tasks in any old order without organising things. Accumulate too much material. Put off what is essential until tomorrow. Waste time, gossip, drag your heels, in spite of yourself. Allow interruptions, even when you are under pressure. Never anticipate interruptions. Never plan your day. Use tools and systems which are unsuitable. Don't bother about what you want in your life, nor what you need for the end of the day.

DESIGN AND PLANNING

PLAN : This step is about HOW to attain the project goals.

1) Produce a master schedule for the key milestones and project activities.
These milestones offer a view of the project progress towards the objectives. If the milestones slip, then the project end date will be in danger. Intermediate deliveries are natural milestones.

2) Plan the development
Identify the critical path. Activities which are not on the critical path have float and can take more time, if necessary, without having an impact on the project end date (at least until the float is used up.) Float can sometimes be used to smooth the resource loads. Intermediate 'mini-milestones' associated with check-lists are useful for measuring the progress month by month, and even week by week.

3) Draw a histogram to show the workload
The histogram can show man-hours per period (i.e. days, weeks, months). There may be peaks and troughs. It may be possible to smooth the resource loads by moving certain activities, or by applying or removing resources.

4) Develop a view of the functional structure of the product.
It is best to visualise the product from the point of view of its architecture, or its functionality. Try representing the process flow, or the design of the modules, or a user interface. The most important thing is that everyone should obtain a better understanding of the object or service to create. Knowledge is enhanced thanks to the team working together. Sometimes, a physical model can be produced.

DESIGN AND PLANNING

0 Name and Description of project

Project roles

Key Milestones (Deliverables)

Nº		Activity	1											
			1	2	3	4	5	6	7	8	9	10	11	12
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Resource Histogram

Solutions or 'Functional' Model

ORGANISING AND MANAGING A MEETING

1) Preparation

First determine the nature and purpose of each meeting:

• Project progress meetings, for example, require a particular organization and aim to answer questions such as: What is the current situation in the project? What has been done since the last time? What will be done during the next period? Are there any obstacles to be tackled?

• Project review meetings are necessarily formal; involve checklists, well-defined roles and a structured approach that facilitates decision-making.

• Creative workshops must be planned, organised and prepared with at least as much attention to detail as the other types of meetings, because it is very difficult to predict what will actually occur. It's important to provide focus, to clarify creative constraints and to leave room for exploration and experimentation.

Inevitably, preparation of a meeting includes sending an agenda, and in the interest of the readers it should remain succinct. Additionally, asking a preliminary question early in the invitation ensures that participants bring information and a switched-on attitude to the meeting. The invitation should also include the venue, time slot, the list of participants with confirmation required, and possibly some ground rules according to circumstances.

2) Ground rules for meetings

A meeting can become wearisome, stressful, burdensome and waste time, which is why people mistrust meetings. However, a well-conducted meeting can be a source of energy, productivity, leadership and creativity. Thus, organizing the right amount of meetings and building the right atmosphere for the meetings is a big part of management. Ground rules for meetings should be established and applied by all the participants (start and end on time, respect the right to speak, level of participation, manage distractions, and so on.) Essentially, the rules are cultural and their application contributes to the development of a team culture. Further to good practices, the team may decide on its own specific rules. Effective leaders create a sense of commitment, help to develop empathy, encourage people to own up early to problems without worrying about the consequences, support the contributions of others, manage their own energy and availability, and such leadership can be demonstrated by any member of a team.

3) Managing the meeting

A meeting will be greatly facilitated by these contributions: initiating ideas, seeking information, supporting others, coordinating, and summarising, evaluating ideas, getting on with the content, and finishing things off. People need to know why they are present and what is expected of them. A briefing of participants at the beginning of the meeting about the contributions expected enhances the commitment of all. A reminder about the use of a glossary, the parking of certain problems or the need to seek information can remind participants that some topics are better dealt with outside the meeting on an individual level, whilst others are more appropriate to the work group. Exchanging information and ideas is productive; prolonging a controversy around a misunderstanding is not.

4) Facilitation techniques

Management is an art that involves skills and complex knowledge in facilitation and team management. Warm-up activities can create an atmosphere. Creative methods of problem solving and decision making are readily available in the literature on the subject. They are especially useful in practice. A successful meeting will be facilitated by the ground rules, the ability to respect the priorities established for the meeting and indeed, managing expectations (recognizing that realistic goals are necessary for the success of a meeting.)

TEAM OBSERVATION

First of all define the duration of the meeting, the task or the discussion to be observed. Divide the duration into four periods. Tick each box when you think you observe the behaviours. Make notes. At the end of the session, add the ticks in each line and column.

	Timeline			
Behaviour	**1st Period**	**2nd Period**	**3rd Period**	**4th Period**
Coordinating: aids participation, halts monologues, facilitates communication, supports, assures even contributions				
Initiating: proposes, energizes, takes initiative, stimulates a new orientation, accepts risk				
Creating: suggests, offers a new idea, develops alternatives, tries to inspire adds thoughts, surprises				
Seeking Information: questions, probes, seeks opinions, searches inside and outside the group				
Tasking: ensures that work gets done, scribes, fetches, supplies, plans, executes				
Supporting: senses emotions, shares feelings, encourages, reduces tension, admits error, compromises, reassures				
Analyzing: expresses doubt, judges, checks data, analyzes, tests, measures, criticizes				
Concluding: sums up, organizes ideas, formulates, clarifies, checks consensus, completes actions				

PROGRESS MEASURES

The best way to manage progress is to use milestones.

The art of using milestones is to recognise the major deliverables (versions, prototypes, documents), but also the intermediate ‘mini-milestones’ (checklists, measures, tests).

A milestone does not have to correspond to the end of an activity. But, a milestone must be something that can be verified, validated or tested by an internal or an external client, which confirms that the work has been done.

If a project lasts several months, then weekly milestones may be appropriate. The most concrete milestone is one which can be validated by a client, either interior or exterior. Some examples: a user scenario, an interface, a decision concerning the architecture, a concept map produced by the whole team, a prototype or a model of some kind.

The most suitable person to suggest an intermediate or ‘mini-milestone’ is the person who will do the work, or the people who will be responsible for delivery. The best person to validate the result is the person who receives and must work with the result.

Tests should be run according to the priorities which will ensure the success of the project. The risk assessment can also guide the schedule of version deliveries.

As a general rule, you can test for:

- understanding,
- usability,
- performance,
- technique.

Therefore, a milestone is a point of control which corresponds to a result and shows that value is being created, that the project is progressing towards the objectives and that the needs of clients are being satisfied.

Indicators are defined which are used to ensure that the project is progressing towards the goals. Appropriate measures would be: the ability to meet the requirements of a client, the reaction of a client, the number of defects, the quality of the interface, test coverage, complexity, stability, and so on.

ADVICE FOR NEGOTIATION

(1) Manage your own behaviour
- emotions
- information
- communication

(2) Prepare your position (win-win attitude)
- understand motivations
- alternatives (minimum, maximum)
- arguments and justification

(3) Recognise negotiating tricks (hard-ball tactics)
- *intimidation* : impose your own experts, repeat your requests.
- *lies* : validate, check, contingency and guarantees.
- *game of options* : do not accept a choice between two bad options.
- *ridiculous offer* : do not give way, offer a counter ridiculous offer.
- *escalation to a higher authority* : either raise an eyebrow, or leave, or call your seniors.
- *ultimatum* : do not give way, leave if necessary.
- *urgency* : that is their problem.
- *procrastination* : offer help for the details, arrange a 'crisis'.
- *poor understanding* : insist on an agreement, propose a renegotiation.
- *silence* : ask for a reaction, mirror their behaviour.

(4) Recognise false arguments (sophistry)
Arguing is a form of dialectic which opposes two points of view. It should create a better understanding of the other point of view. For example : "Plastic bags should be banned." Why ? What are the principles ? Who will profit ? Who will lose ? Are there any alternatives ? Where is the problem ? What will be the consequences if nothing changes ?

Attacks against the person *(ad hominem)* : (Expose that the attacks are against the person).
Circular arguments *(petitio principii)* - the conclusion is the premise. (Beware of opinions which seem to certain : « Hunting is murder. » « Hunting is freedom. »)
Changing subject (*non sequitur*) – (If you can't follow, check the subject of the debate).
Everyone knows it (*ad populum*) – (If everyone knows, except you, the statement is false).
Appeals to authority *(ad verecundiam*) – opinion of an 'expert' (verify that the expert is really an expert : if yes, he should be able to explain).
Straw man – false exaggeration « you want to limit expenditure on security ? So, you want to open us to all the criminals of the planet ! » (Interesting, but it's not my position.)
Slippery slope – « If I do that for you, then I'd have to do it for everybody.» (Show that the descent is not inevitable.)
Labels – attempt to discredit or diabolise by using a label, often concerning a group.
Dubious evidence – (Be sceptical. Identify the other possible sources.)
Generalisation – (One exception is enough to discredit it).
False dilemma – ex : « donate, otherwise you are against life. » (Look in the middle).
Two wrongs do not make a right – a method often used to justify corruption.
Appeal to force (*ad baculum*) – gives bad results which are not permanent.

In every argument, try to clearly establish principles. Listen. Identify fallacious arguments. There are open and closed positions. It is useless to argue against a closed position. Simply note the strong and weak points. Or ask the question : « what could prove to you that you are wrong. » If you want to end a discussion, ask : « and in fact, what were we discussing ? ».

(5) Select an appropriate reaction to conflict (realism).
- Evasion : it's not worth the bother.
- Combat : it's too critical.
- Conciliation : agreement is important.
- Compromise : agreement does not justify further effort.
- Cooperation : an integral solution is necessary.

DEVELOPMENT

1) Measure the progress of key indicators. Compare planned progress with actual progress.
There are two sides to quality: client satisfaction and quality of delivery. Thus, make the right solution, then make the solution right.

Use cases, questionnaires, recognised standards, are all potential measures of client satisfaction. Clients expect value to be equal or greater than cost.

Performance, quantity of defects or rework, indicators of complexity, are all measures of the quality of delivery.

The summary shown in this example presents functionality (opinion of several users: 1 to 5, usability (1 to 5) and reliability (number of known defects).

2) Manage the progress of project indicators.
Count the number of 'mini-milestones' which have been achieved. (Fifty milestones were planned initially). Evaluate each milestone as a percentage of the total project. Cumulate the percentages as the project progresses. Compare the progress percentage which the percentage planned.

Earned value can be calculated by multiplying the progress percentage by the total budget for the project, or work package. Obviously, the creation of value is important for the project. Another method is to calculate the value in terms of target price instead of total budget.

3) Forecast the results at the end of the project.
Use the progress percentage to estimate the amount of effort which remains. The earned value can also be used to estimate the budget at the end of the project.

4) Show activity progress.
Display the start and end dates of each activity, the expected end date for the activities that are started, but not finished, and the forecast end date compared to planned date for the activities which remain.

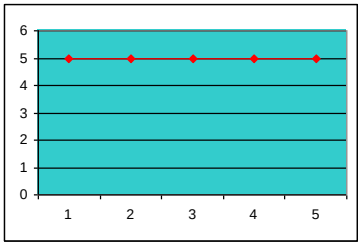
The project schedule is a communication tool which helps you to remain informed of project progress.

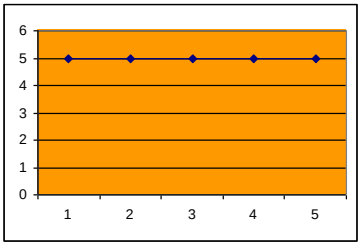
DEVELOPMENT

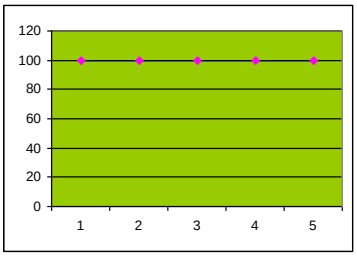
0 Name and Description of project

Project manager

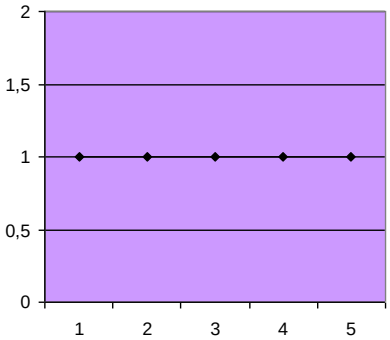
Progress of deliverables (e.g. functionality, usability, reliability)







Cost and Schedule performance



Notes on progress

Progress of individual milestones

Activity Progress

Nº		Activity	1											
			1	2	3	4	5	6	7	8	9	10	11	12
1														
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DEPLOYMENT

1) Manage incidents

When a project is deployed, or goes live, incidents occur which were not always anticipated.

For example:

- *equipment fails to function, or the installation does not work out,*
- *support is less useful than foreseen,*
- *somebody becomes unavailable,*
- *etc.*

How will you handle these problems ?

2) Measure benefits

Did the project succeed ? What was the result in terms of cost and schedule ?
How many people participated in decision making ? What was the level of satisfaction of each stakeholder ? How did the tests work out ?

3) Build for the future

What worked well ? What did not work well ? What should we repeat ? What should we avoid ?

DEPLOYMENT

0Name and Description of project	**Project roles**
Incidents during implementation	**Measurable benefits**
What we would like to repeat	**What we would like to avoid**