

# Divergent and Convergent Thinking

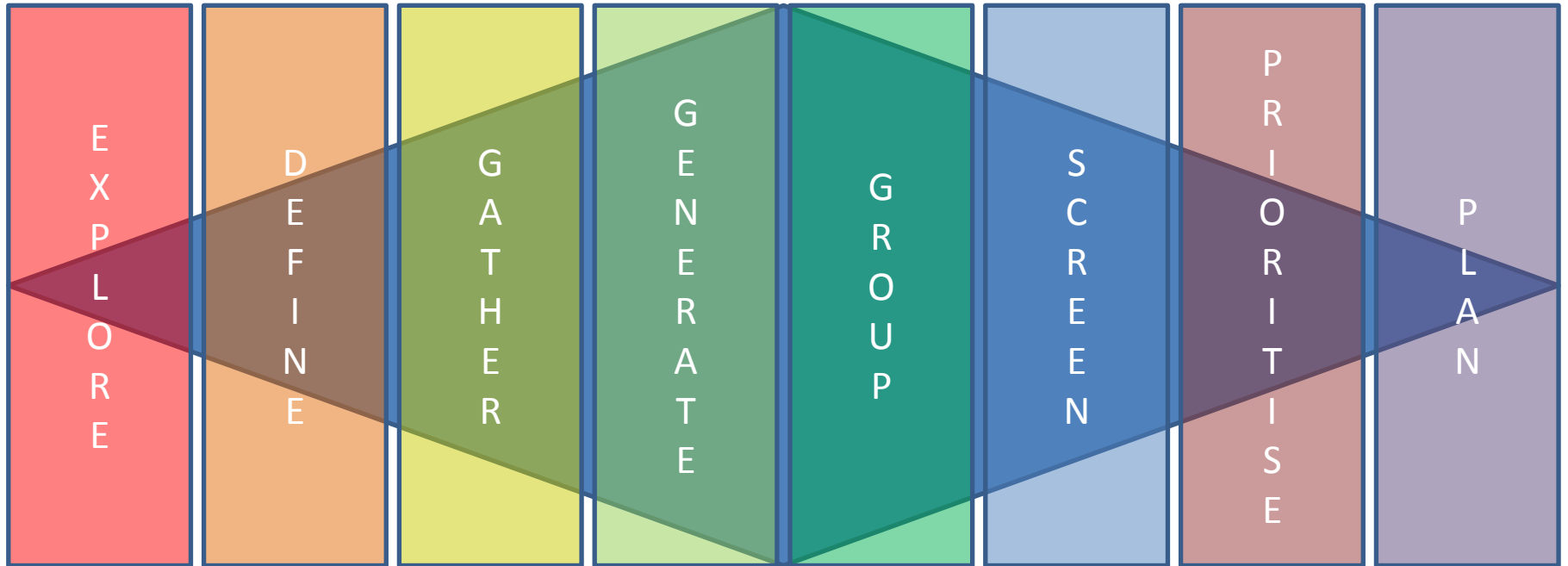
A generic guide to time-bound creative problem solving techniques:  
What, why, when and how to complement your existing ways of working

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# Overview

FULL PROCESS



DIVERGENT STEPS

CONVERGENT STEPS

# What?

- Business and Systems Analysis (problem solving) can be broken into simple steps – the atoms.
- Two types of thinking are needed: divergent and convergent. Use two (or more) atoms.
- The following categorised techniques (atoms) are practical, engaging and results oriented.

# Why is this overview needed?

- Many managers ask if these techniques work.
- The answer is YES. The keys to success are judicious selection and confident facilitation.
- This is a solutions focussed approach. It lets you build on what is already done well in your organisation.

# When to use them

- Engage users in workshops.
- Help teams appreciate bigger picture.
- Solving problems in processes or products.
- Solo use is beneficial for time poor managers.

# How to use them?

- Determine which categories of activity are required for a given situation: solo or group.
- Prepare your sessions correctly then facilitate to encourage appreciative inquiry.
- Start small then chain atoms to iterate over problems of increasing complexity.

# EXPLORE

## **Group only**

- Brainwriting 635
- Charette
- Crawford slip writing
- Delphi
- Greeting Cards
- Other Peoples Viewpoints
- Phillips 66 (Buzz Sessions)
- Search conference
- Think tanks
- Using experts

## **Solo or group**

- Alternative scenarios
- Assumption surfacing
- Boundary relaxation
- Causal mapping
- Free association
- In-and-out listening
- Notebook
- Sleight of mouth
- Rich Pictures

# DEFINE

## **Group only**

- Other peoples definitions
- Search conference
- Value brainstorming

## **Solo or group**

- CATWOE
- Clarification
- Focusing
- Gap analysis
- Goal Orientation
- Paraphrasing key words
- Reframing values
- Visualising goal
- Well formed outcome
- Who are you?



# GATHER

## **Group only**

- KJ Method
- Metaplan Information Market
- Notebook
- Preliminary questions
- Problem Inventory Analysis
- Technology Monitoring
- Think Tanks
- Why, why, why, why, why?

## **Solo or Group**

- Browsing
- Bug Listing
- Card story-boards
- Charrette
- Crawford Slip Writing
- Delphi
- 5Ws and H?
- Focus Groups
- Keeping a dream diary
- Receptivity to ideas

# GENERATE

## **Group only**

- Brain sketching
- Bunches of bananas
- Creative Problem Solving
- Gallery Method
- Nominal Group Technique
- Pin cards
- Progressive revelation
- Superheroes
- Synectics
- Transactional planning

## **Solo or Group**

- Analogies
- Attribute listing
- Cartoon Story Board
- Exaggeration
- Excursions
- Heuristic Ideation Technique
- Imagery manipulation
- Mind Mapping
- Rolestorming
- Working with dreams and images

# GROUP

## **Group only**

- Card story boards
- Component detailing
- Consensus mapping
- KJ method
- Panel consensus

## **Solo or Group**

- Analysis of interactive decision areas (AIDA)
- Causal mapping
- Drawing
- Fishbone Diagram
- Highlighting
- Interpretive structural modelling
- Mind mapping
- Paired comparison
- Q-sort
- Snowball technique

# SCREEN

## **Group only**

- Anonymous voting
- Charrette
- Less competitive methods of voting
- Metaplan Information Market
- Panel consensus
- Progressive hurdles
- Simple rating methods

## **Solo or group**

- Highlighting
- Interpretive structural modelling
- Q-sort

# PRIORITISE

## **Group only**

- Consensus mapping
- Dialectical approaches
- Estimate-discuss-estimate
- Idea advocate
- Negative Brainstorming
- Other People Viewpoints
- Progressive Ideas
- Sticking dots

## **Solo or group**

- Advantages, limits, unique techniques
- Bullet proofing
- Comparison tables
- Force field analysis
- Help, hinder
- Personal balance sheet
- Pluses, potentials, concerns
- Receptivity to ideas
- Well formed outcomes

# PLAN

## **Group only**

- Card story boards
- Consensus mapping
- Constrained brainwriting
- Negative brainstorming
- Other people's viewpoints
- Potential Problem Analysis (PPA)

## **Solo or group**

- Bullet proofing
- Cartoon Story-board
- Critical Path Diagrams
- Factors in "selling" ideas
- 5 Ws and H
- Flow charts
- Force field analysis
- Implementation checklists
- Sequential attributes matrix
- Stakeholder analysis

# FULL PROCESS

## **Group only**

- Classical brainstorming
- Collective notebook
- Creative Problem Solving
- Decision seminar
- Nominal Group Technique
- Phases of integrated problem solving (PIPS)
- Quality circles
- Search conference
- Strategic Management Process
- Value brainstorming

## **Solo or Group**

- Disney
- Focusing
- Kepner Tregoe
- McKims method
- Strategic options development and analysis (SODA)
- Soft Systems Method
- Strategic assumptions testing
- Value engineering

# What next?

- There are plenty of resources on the web that detail the techniques. Happy hunting.
- Plan a session when specific techniques will help you and your team.
- Measure the results. Impress your bosses. Ask for that pay rise you want.
- Do not be constrained by the limited techniques listed here. Find alternatives that work best for you.



# Some metrics to consider

*“If you cant measure it you cant manage it”*, Peter Drucker

- A3 process improvement experiments.
- Losada number to determine level of appreciative enquiry in teams.
- Delivery schedules met with correct quality
- Customer satisfaction.

# Stay switched on when facilitating

- *“Not everything that is counted counts, not everything that counts is counted”*  
Albert Einstein
- Check that the problem you are trying to solve is the one that really needs solved. Frame it and define the boundaries prior to the session.
- Plan for preferences of the people who will be using the techniques. You may consider Representational Preferences, Belbin roles, Hofstede cultural differences depending on group composition.
- Pay close attention to anyone who is out of their comfort zone. Some techniques surface emotions from joyous epiphanies to grief for different people.
- Plan ahead so that if one technique does not work try another. Variety is the spice of life...

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# About the author

- Zak Moore is the founder of Comscientia: *To share knowledge.*
- A versatile leader/servant (for the correct fee) he has worked across energy, financial, government and publishing sectors over the last 25 years.
- Tired of seeing repeated mistakes of late delivery, misunderstood requirements and upset customers with regard to software development he is working to improve the situation.
- Contact: [zak@comscientia.com](mailto:zak@comscientia.com) if you need any advice regarding the use of these atoms.
- If you prefer to jump to conclusions and solve problems early you may well have a different type of atomic outcome. BOOM!