Developing Innovation and Creativity for Business Advantage

Week – 3 (Part 3)

Differentiating between critical and creative thinking

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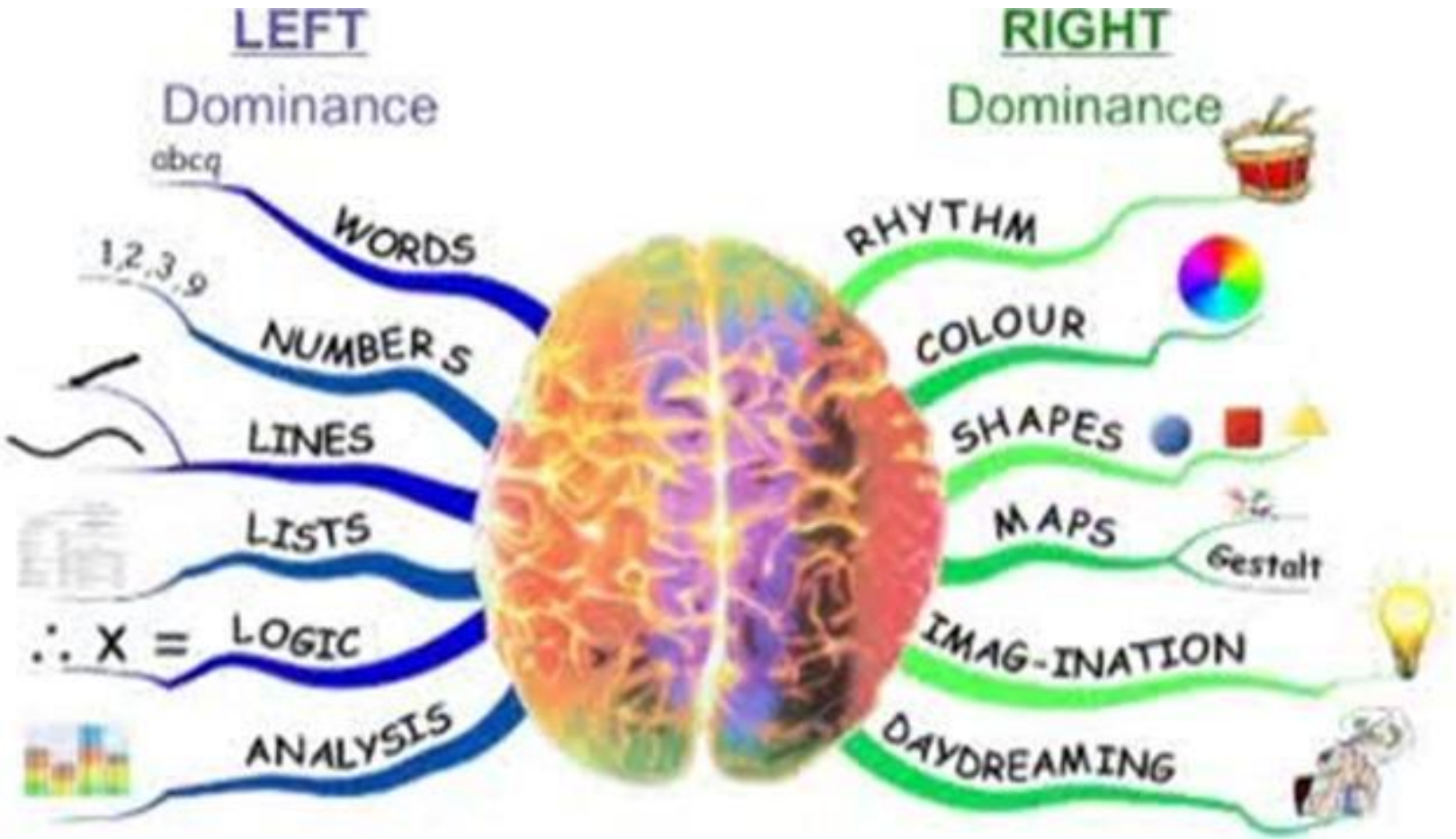
Recap

- Week 1 – Introduction to innovation
- Week 2 – Concepts & techniques of innovation & creativity
- Week **– 3 (Part 1) Open and Closed Innovation**

  (Part 2): "New-Product Development and Product Life-Cycle Strategies"

This session – we will look "Differentiating between critical and creative thinking"

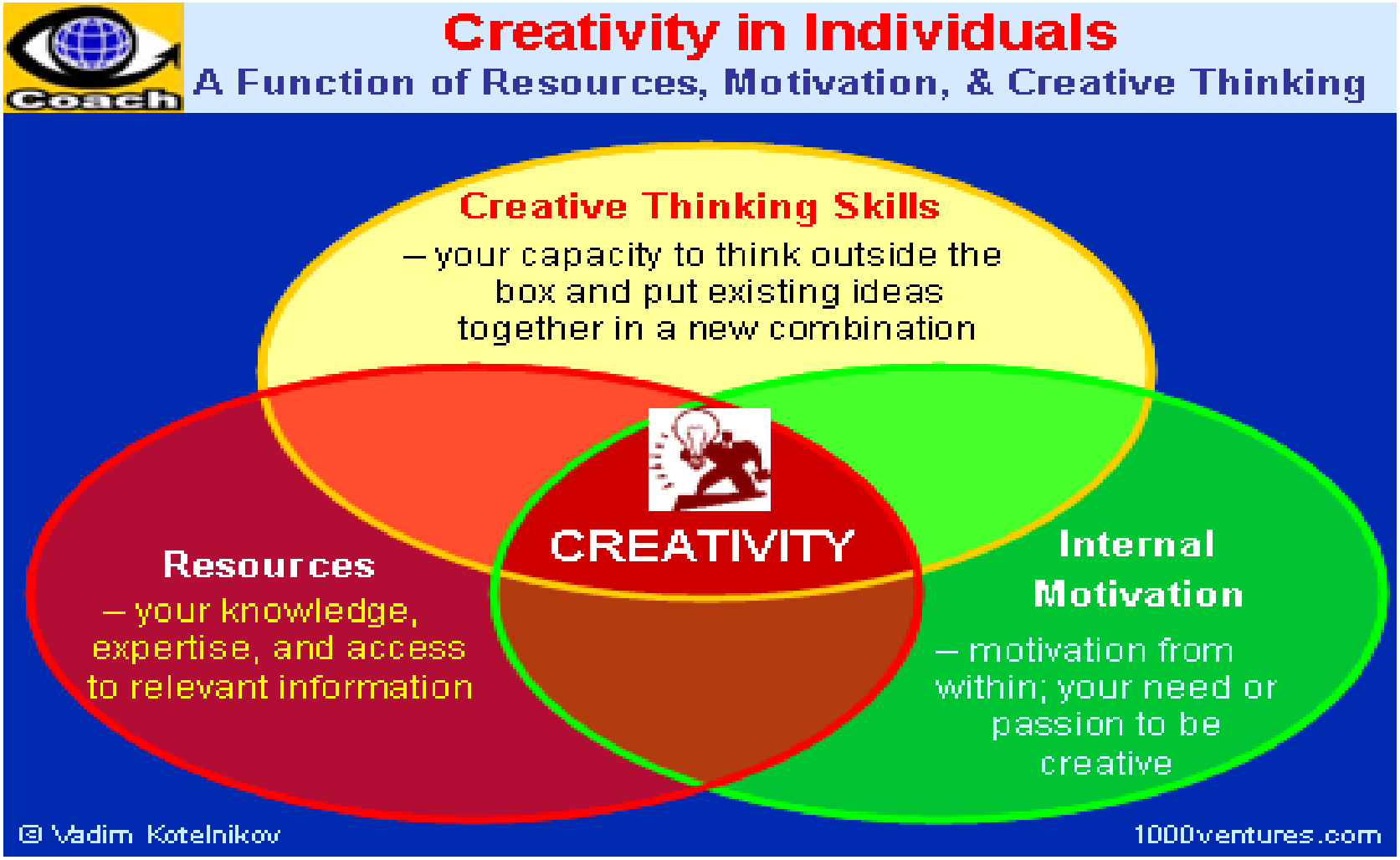
Critical & Creative Thinking



Thinking Styles

	Abstract	Linear
Characteristics		
Indicators in Language		
You, most often are…		
Who, on your team, is…		
Your boss may be…		

Creative Thinking (CT)



Creative Thinking Skills & Abilities

1. Suspend judgment (no right/wrong, good/bad)
2. Subjective (personal viewpoints)
3. Divergence ("another way of looking at it is")
4. Abstract (flexible, conceptual in nature, based on principles in mind)
5. Generative ("here's another idea")
6. Associative ("it's like this…")
7. Visual (pictoral, photographic, graphic)
8. Cooperative ("yes, and…")

Critical Thinking (CT)

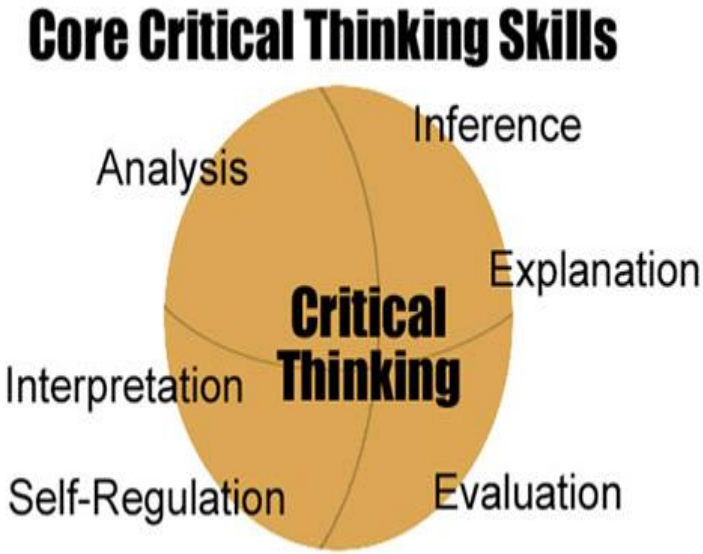
- “Critical thinking is thinking that assesses itself" (Center for Critical Thinking, 1996b)

- **Critical thinking** is *reflective reasoning* about beliefs and actions. It is *a way of deciding* whether a claim is always true, sometimes true, partly true, or false.

- Critical thinking asks us to consider whether a piece of knowledge could be rationally justified with clarity and logical consistency. One sense of the term **critical** means *crucial*; a second sense derives from Greek meaning *discerning judgment*

Critical Thinking (CT) Skills

- Observation
- Interpretation (i.e., a particular version or adaptation of a work, method, or style)
- Analysis/Discrimination of Data
- Inference (i.e., **a :** the act of passing from one proposition, statement, or judgment considered as true to another whose truth is believed to follow from that of the former; **b :** the act of passing from statistical sample data to generalizations
- Evaluation
- Explanation
- Meta-cognition/Self-regulation (i.e., lysis of one's own learning or thinking processes)



CT is the ability to:

1) Recognize problems or situations and circumstances requiring concentrated thought;
2) Understand the importance of prioritization and order of precedence in problem solving
3) Gather and marshal pertinent (relevant) information
4) Recognize unstated assumptions and values
5) Comprehend and use language with accuracy, clarity, and discernment; expunging generalist terms (e.g., do not say: “we want people to get along”)

Critical thinking is the ability to:

6) Interpret data, to appraise evidence and evaluate arguments;
7) Recognize the existence (or non-existence) of logical relationships between propositions and draw warranted conclusions and generalizations
8) Put to test the conclusions & generalizations at which one arrives
9) Reconstruct one's patterns of beliefs and behaviors based on wider experience
10) Render accurate judgments about specific things and qualities in everyday life

Systems Thinking

- **Systems thinking** begins with identifying the key stakeholders and processes in the system – those people and processes that can help or hinder the achievement of a particular goal or set of goals.

Strategic Thinking

- **Strategic thinking** begins with starting points, or the levers, for initiating a positive ripple or cascade effect with a group or a system.
- Strategic thinking focuses on the how, when, why and who.

Opportunity Thinking= Critical & Creative Problem Solving

Issue/Topic:

Deconstruction	Reconstruction	Action Plan	People
1.	1a. 1b. 1c.	What steps are necessary to make each reconstructed answer happen? Which items can be accomplished when… RN: right now…ST: short-term… or LT: long-term…	Who should be responsible… Team leader? Team members? Others?
2.	2a. 2b. 2c.		
3.	3a. 3b. 3c.		
4.	4a. 4b. 4c.		
5.	5a. 5b. 5c.		

YOU CANNOT SOLVE A PROBLEM FROM THE SAME CONSCIOUSNESS AS IT WAS CREATED.

OT - Opportunity Thinking…

- Is optimistic and includes hope and positive thinking
- Includes all of the reasons why you think something will work
- Is constructive and generative
- Looks forward to finding benefits and advantages, and assesses the past in the same way
- Looks at possibilities and options
- Is speculative and opportunity-seeking, and helps to generate proposals and suggestions
- Requires deliberate thought

Creative and critical thinking begins with perception: 6 Reflective common failures in perception

1. We fail to look for something

2. We see only part of the situation

3. We leave things out

4. We fail to take consequences or other people’s thinking into account

5. We fail to generate alternative

6. We don’t allot enough time to see what can be, and needs to be, seen

Tools for Thinking

Directed Attention Thinking Tools (D.A.T.T.)

Tool 1 -- **Consequences and Sequels**
Look ahead to see the consequences of an action, plan, decision, or rule.

Tool 2 -- **Plus, Minus, Interesting**
Ensure that all sides of a matter have been considered before a decision or commitment is made.

Tool 3 -- **Recognize, Analyze, Divide**
Break a larger concept into smaller, more manageable parts.

Tool 4 -- **Consider All Factors**
Explore all factors related to an action, decision, plan, judgment, or conclusion.

Tool 5 -- **Aims, Goals, Objectives**
Focus directly and deliberately on the intentions behind actions.

Directed Attention Thinking Tools (D.A.T.T.)

Tool 6 -- **Alternatives, Possibilities, Choices**
Deliberately try to find other ways.

Tool 7 -- **Other People's Views**
Put yourself in others' shoes.

Tool 8 -- **Key Values Involved**
Ensure that your thinking serves your values.

Tool 9 -- **First Important Priorities**
Select the most important ideas, factors, objectives, consequences, etc.

Tool 10 -- **Design/Decision, Outcome, Channels, Action**
Direct attention to the outcome of the thinking and action that follows.

Three Keys to Success (D.A.T.T)

Directed Attention Thinking Tools (DATT)

1. **Focus**: Know which tool you are using and where you are applying that tool
2. **Objectivity**: Use the tools objectively, not just to support or defend one viewpoint
3. **Comprehensiveness**: Make an effort to be comprehensive and to scan as widely as possible

P.S.P. Problem Solving Process

1. Define the problem
    a. Redefine the problem – state it in at least five different ways.
2. Generate data about the problem
3. Generate ideas or alternate courses of action for each problem statement: what are the opportunities/possibilities?
4. Choose among the alternative solutions
5. Create a plan of action for one or several of the alternative solutions, and implement the plan.

A.P.S. - Alternative Problem Statements

Defining a problem in more than one way invites the problem solver to generate multiple problem solutions from a variety of perspectives as directed by the definition of the problem.

This process focuses on identifying more than one definition of a problem. Using an alternative definition, of people's feelings about the Company Parking Lot could be defined in the following ways:

The parking lot is too small.
Too many people want to drive to work.
Too many people want to park in the lot.
Too many people complain about the parking lot.

Depending on the perspective the definition, and therefore the solutions, will differ. Coming up with multiple statements and multiple solutions will provide you with systemic resolutions.

P.M.I.

P = PLUS

M = MINUS

I = INTERESTING

“It would be interesting if…” (options)

“It would be interesting to see whether…” (testing ideas/theories)

“What is interesting about this is…” (observations – obj. and subj.)

P.M.I. (Plus, Minus, Interesting

There are three situations in which the P.M.I. is very useful.

1. Assessment
2. Choice
3. Design

C&S: Consequence and Sequel

When to use C & S

- Evaluation
- Prediction
- Design

CAF: Consider All Factors

- Purpose Factors
- Feasibility Factors
- Fit Factors
- Acceptance Factors
- Impact Factors
- Involvement Factors
- Resource Factors
- Timeline Factors

A.G.O.: Aims, Goals, Objectives

When to use A.G.O.

1. Drift and purpose
2. Assessing and prioritizing multiple objectives
3. Developing alternative definitions

A.G.O. allows you to develop: **right now**, **short term**, and **long-term** objectives

O.P.V. Other People's Views

How to use OPV:

1. List all those who are involved or who can impact or will be impacted by the outcome

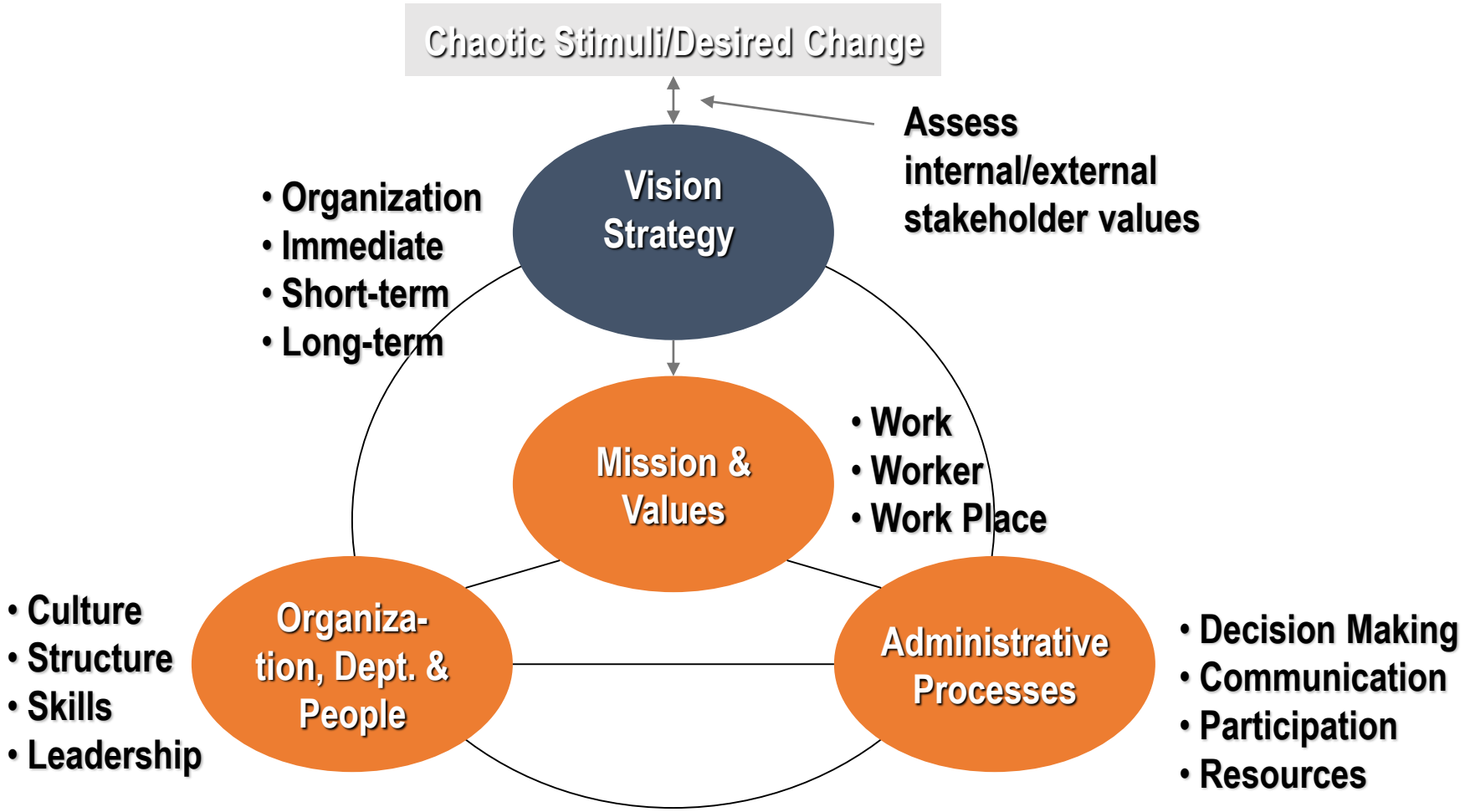
2. Solicit and/or describe their points of view and perspectives

F.I.P. First Important Priorities

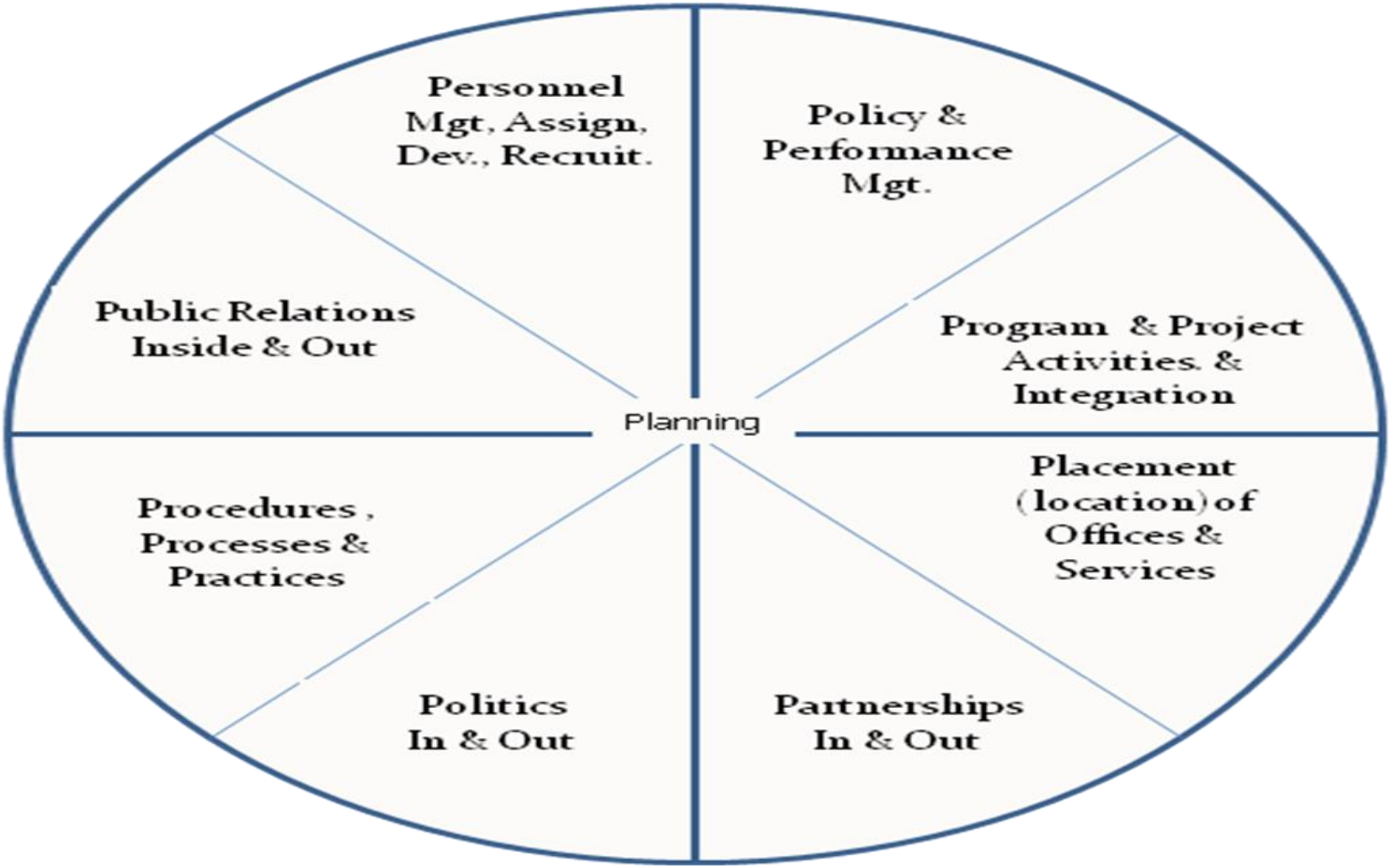
Use FIP to narrow things down. Remember, not everything is equally important

1. What are the things that have to be done first?
2. What are the things that are most important?

360° Approach to Change & Management of Chaotic Organizations



The P Wheel


Personnel
Mgt, Assign,
Dev., Recruit.
Policy &
Performance
Mgt.
Public Relations
Inside & Out
Program & Project
Activities &
Integration
Planning
Procedures,
Processes &
Practices
Placement
(location) of
Offices &
Services
Politics
In & Out
Partnerships
In & Out