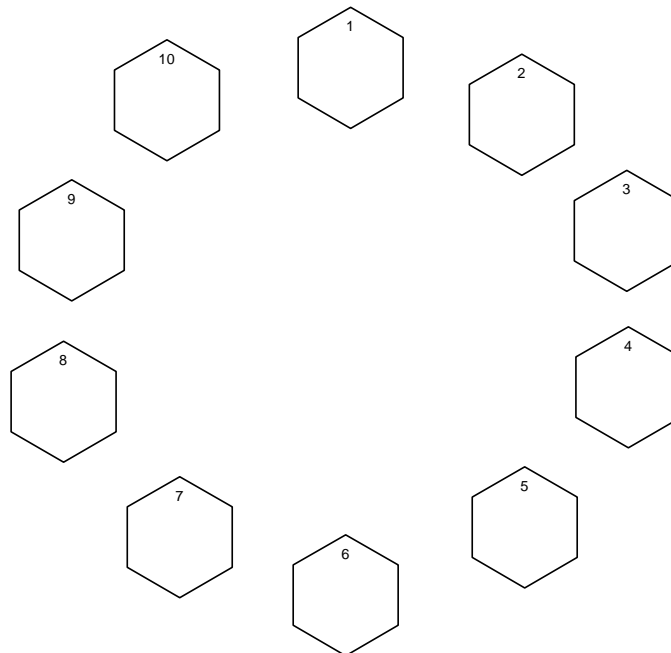# Thinkingtools.Net
Better Meetings. On Purpose.

VIS-IT™ Causal Thinking Technique:
The CAUSAL DRIVERS DIAGRAM (CDD)

The Causal Drivers Diagram helps members a group visualize causation connections between the major factors in a potentially complex issue. It is an effective tool for problem solving because it helps people see the interconnections between factors, and suggests factors that could potentially be problem causes. When not used for problem solving, it offers a group the opportunity to help discover the high-impact "drivers" that must be managed to accomplish an organizational objective.

The Causal Drivers Diagram is a type of "relations diagram" that is often used in Total Quality Management, Continuous Improvement, Six-Sigma, and Root Cause Analysis initiatives. The following describes the VIS-IT™ Causal Drivers Diagram technique.

Step 1: Use the Thinking with Hexagons technique, or a similar method, to determine the factors to be analyzed for possible causal relationships. The factors could appear on either individual idea hexagons or on cluster label hexagons. Try to limit the number of factors per diagram to twelve or less.

Step 2: Write each distinct factor on its own hexagon, and number each factor hexagon sequentially. Then arrange the factor hexagons in a circle on a white board or other large surface. Note: a whiteboard allows arrows to be redrawn easily. See the example arrangement shown below.


Causal Drivers Diagram, Page 1

Step 3: Beginning at the top, with Factor 1, the facilitator asks the following question: "Considering just Factor 1 and Factor 2, does any significant causal link exist between them? If so, what is the predominant direction of the causality?" In the example below, the group's consensus was the following: "There is a causal link between them: Factor 1 is the cause, and Factor 2 is one of its effects."

 After considering the first pair, the facilitator asks: Now consider Factor 1's relationship with Factor 3; is there a causal link between them, and, if so, what is its direction?" In the example below, the group determined that there was no significant causal link between them. Thus, no arrow was drawn between them. The facilitator continues with similar questions until the group has considered the potential causal relationship between Factor 1 and each of the other factors.

The example below shows the relationship between Factor 1 and all of the others.
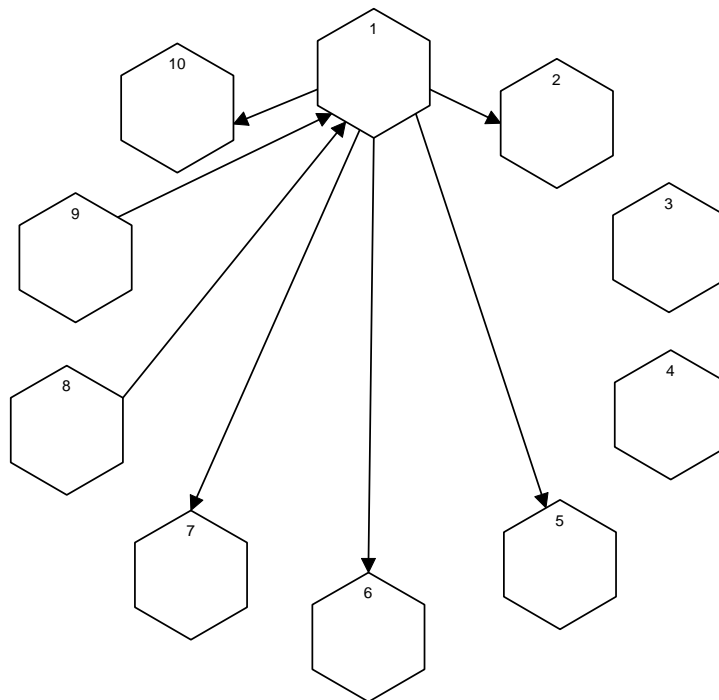
Step 4: The group goes on to consider the potential relationships between Factor 2 and all other factors except Factor 1. Factor 1 is not considered again because that potential relationship had already been analyzed when Factor 1 was the starting point. After Factor 2 has been examined, the facilitator continues on to Factor 3 as a starting point. Note that each round gets shorter because there is no need to revisit the pairings already considered in earlier rounds.

The example below illustrates how a causal drivers diagram might look after all the pairs have been considered.
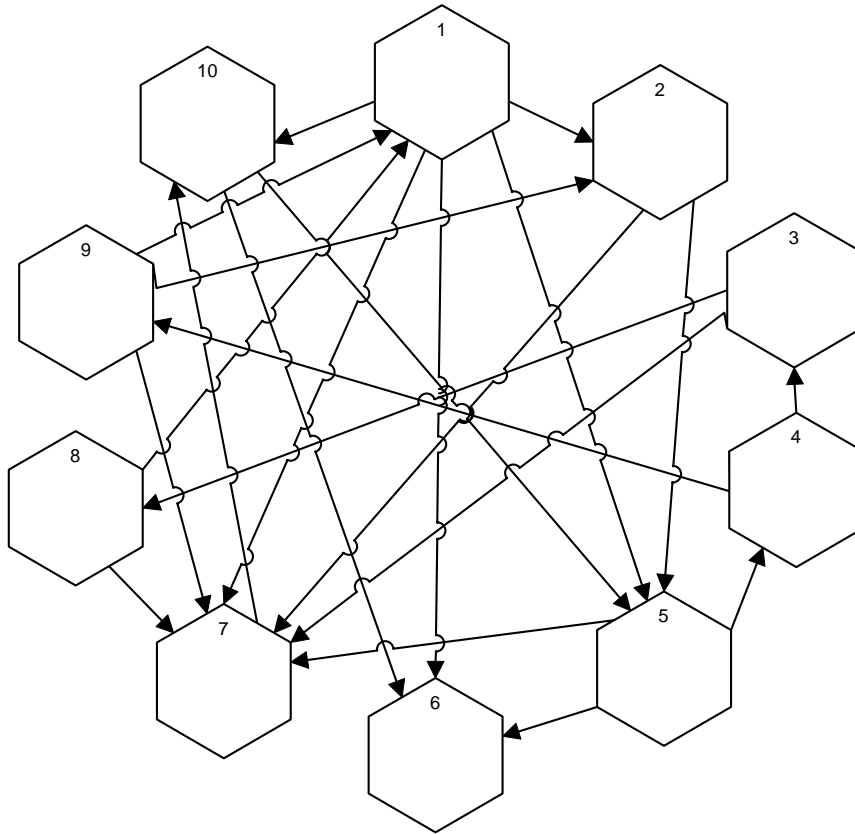
Step 5: After all possible causal pairings have been considered, the facilitator will examine the arrows coming into and going out of each hexagon. He or she will construct a table similar to the one below.

Factor	Arrows Out	Arrows In	Out-In	Driver Rank
1	5	2	+3	1
2	2	2	0	6
3	2	1	+1	3
4	2	1	+1	3
5	3	3	0	6
6	0	3	-3	9
7	1	6	-5	10
8	2	1	+1	3
9	3	1	+2	2
10	2	2	0	6

Step 6: The group will review the table to select the factors that they believe have the strongest influence. These are the "drivers" that are good candidates for being either major "causes" of a problem, or "critical success factors" in the pursuit of an organizational objective.

About Thinking Tools LLC (formerly Vision Works LLC)

The PURPOSE of Thinking Tools LLC is to develop and offer highly effective team-support tools and methods for innovative thinking, facilitation and training. Our VIS-IT tools focus thinking to generate greater insight, creativity and problem-solving capabilities! Our VIS-IT techniques make teams more productive! Together, our products and methods enable anyone to conduct Better meetings. On purpose. Please share your experiences and comments on this technique at www.facebook.com/thinkingtoolsnet.

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