# Thinking in Community While Framing Your Project -Beyond Playing Nice

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2015 In2:InThinking Networking Forum

In2:InThinking Thought Piece Article www.in2in.org/od/thought/2015-04-ThoughtPiece-DightmanNave.pdf

# Backwards Brain Bicycle 🔿



### Ride a Bike

- Simple
- Everyone Can





Ride a Bike

- Complex
- No one can
  (Even when
  you want to) ...
  Unless?)

### Think

- Simple
- Everyone Can **CHANGE**



**ONE** 

SIMPLE

Think in Community

- Complex
- No one can
  (Even when you want to) ...
  unless?

A Community

# Not So Simple

- For the ability to think in community, the issues run many layers deeper than **Destin's** *"you are looking at the world with a bias.*"
- Korzybiski, 1933 Science and Sanity
  - Primary Sensory Inputs: Visual, Auditory, Kinesthetic
  - Filters: Beliefs, Values, Attitudes, Memories, Self Talk
  - Meta programs Deleting, Distorting & Generalizing
  - Internal representations, both logical & emotional. *The "map" is not the territory*.

# As We Operate

- We must operate linguistically-mentally with *"undefined terms."*
- Process sensory input, select data, mixing with map-informed assumptions, reaching conclusions, reinforce beliefs, driving new action.
- Expectations and prejudgments lead to impulsed intervening action.

# The Hope: The Value Process

- Through Structure and Participation
- Community is able to focus on
  - Value and purpose
  - The opportunity to focus in unison at the same instant, upon issue, in a similar context.
  - Processes for Creative & Expansive thinking
  - Process for Decision making

# **Thinking In Community** While Framing Your Project Beyond Playing Nice



### Establishing the Intent THEN

Selecting the Appropriate Methodology for Implementation



Bringing People Together With The Same Focus, At The Same Instance in Time

# Thinking In Community



# A Method for 'Stewards' of Business (Stewards For The People)

- People are not against change, they are against *being* changed. People need to understand the need for change from their perspective.
- Only through cooperation and collaboration will progress be made.

# Based on six deceptively simple questions

- What is it?
- What does it do?
- How much does it cost?
- What is it worth?
- What else will accomplish that function?
- What does that cost?

Framing Workshop

> Team Studies



100% radiographic inspection



### Brainstorming/Screening

ddress	Idea	GFI	Champ's	Write
J26	Train Employees on Damage Potential/Consequence	On- Going	3	
J33	Virtual Collocation	Goal	1	
J10	Auto Pull System for P.O. operating at P.O.U.	Goal	3	
J16	Forecast Independent Demand (Spares)	Goal	7	
J25	Reusable Packaging (Related to J10)	Goal	1	
J3	Eliminate Micro Management of Suppliers	Goal	3	
J31	Provide Elano with SIM via SN (Combine with J10)	Goal	3	
J6	Eliminate Directed Procurement Sources	Goal	7	
J30	Elano becomes Source Delegated (Combine with J5)	9.7	7	JT
J4	Eliminate Renton Receiving Inspection (Combine with J5)	9.7	9	JT
J5	Delegate Receiving Inspection to Elano (Combine with J4)	9.7	6	JT
J34	Elano CATIA Interface	9.5	6	AM
J2	AMS vs BMS Material Spec	9.0	5	SLB
J18	Optional Source for Flex Joints	8.8	7	JLW
J1	Use Standard AS Flanges (Yes if, meets interfaces)	8.4	7	KL
J35	Qualify Duct System, Not Components	3.3	4	
J7	Make Ducts Basic to Engine	3.3	2	
J12	Eliminate SCD's	2.3	4	
J8	Deliver Ducts to GE	2.0	3	
J17	Install "No Step" signs	1.8	2	
J19	Make Flex Joints Build-to-Paint (Combine with J12)	0.0	2	
J20	Elano Kit Engine Set to P.O.U. (Combine with J10)	0.0	3	
J21	Rotable Shipping Containers (Combine with J10)	0.0	4	
J11	Build to Forecast with Min Order Quantity	####	1	
J13	Eliminate Bearings in Links	####	0	
J14	Leap Frog Renton Receiving - Deliver to PSD	####	8	
<del>J15</del>	Eliminate P.O.	####	0	
<del>J22</del>	buy Out Elano	####	0	
<del>J23</del>	Elano Relocate to Puget Sound	####	0	
<del>J2</del> 4	Elano Buy Welded Duct Center	****	0	
<del>J27</del>	Assume Ownership at Elano Facility	####	0	



6		Risk Definition
	Small	Recommendation has a small (if any) technical risk. Immediate pay-back, low investment, no additional testing required. Can be implemented now with the team' s
	Low	approval. Recommendation has some low technical risk that can be resolved with available published information. Good pay-back potential, low customer visibility.
	Medium	Recommendation has good pay-back potential, but requires some development and testing to validate assumptions. No new technology involved.
	High	Different concept being proposed. High technical risk, but very high pay-back possible. Requires a full development program to validate. Some new technology introduced.
	•	

### **SPECULATION & EVALUATION**

Solution Proposal Menu																		
	Attributes Scenarios																	
Reference Number(s)	Description	GFI	Risk	Unit Cost Reduction / Eng. Set	Supplier NRE	Contractor NRE	Recurring Cost	ROLT	Flow Time	Implement Time	NRE	All Rejections	Added Reqm't Cost	RED TEAM	RED TEAM BLUE TEAM GREEN TEAM Proposal A Low Hanging Fruit		Proposal A	Tow Hanging Fruit
A1	Delete Polishing	9.6	Small	\$150	\$0	\$0	+	+	0	0	0	0	+	X	X	Х	Х	X
A15	Change "Hydro Test" to "Pressure Test"	8.9	Small	\$10	None	Inc	+	0	0	0	0	+	0	X	X	X	Х	Supplier Option
A4/16	Define Defects & Critical Flaws - Use Company Standards	8.8	Low	\$100	None	None	+	+	0	0	0	+	+	X	X	X	х	x
A2/21/24	Eliminate Radiology and Use Boroscopy	8.5	Small	\$500	None	None	+	+	+	0	0	ο	+	X	X	x	х	X Capital Avoidance. Assumes 50% elimination, stretch goal 80% (\$1500). Based on current number of welds.
A13	Spot FPI After Weld vs End of Line Inspection	7.9	Low	50	None	None	0	+	0	0	0	0	0					
A5/6/7	Use in Process Control with Sampling vs End Item Inspections	7.9	Small	75	None	None	+	+	0	0	0	-	0	X	X	X	х	Potential savings after sampling establishes acceptable track record.
B14	Eliminate Manual Weld Operations	9.3	Low	\$100	200	None	+	+	0	-	0	+	+	X	X	Х	Х	X
B10/11	Bulge Form or Bend 5.5 in Elbow 2345-6 (Include Symetrical)	9.2	Small	\$100	(\$5K)	Inc	+	+	0	-	+	+	+	X	X	x	х	Yes If, installation envelope permits.
	Above \$ are not actual amounts																	





What is the Issue?

**Issue Statement** 

Where do you want to go?

Goals

How will you know your progress? Attributes

How will you know when you arrive? **Performance** Matrix

# From the General to the Specific



### **Check & Balance Process -**To Focus the Chatter on the Specific Issue at the Moment



# What Does The Customer Buy?

- A Customer Needs Something Done
- A Customer Wants An Outcome
- A Customer Wants A Function

# <u>A BENEFIT - NOT A FEATURE</u>

We need to change our conversations from FORM → PURPOSE

# Who's the Real Customer?



### **Basic Value Formula**



<u>Value is a Customer Perception</u> Benefit to customer (Utility) Meets customer's wants (Esteem) "Worth" from the customers perspective (Exchange)

# Issue Definition

- Problems/Opportunities Are Usually Expressed As Symptoms Or Solution
- Challenges The Stated Issue As The Real Issue
- Separating The Issue Cause From Its Effects
- When Suppressing Just The Symptoms The <u>Fundamental Cause</u> Emerges elsewhere (often with greater Magnitude)

### PROBLEM DEFINITION

What is the problem we are about to discuss?

(OPPORTUNITY)

Why do you consider this an problem?

(SYMPTOMS)

*What is the consequence of not capturing this opportunity?* (<u>RELEVANCY</u>) (*Why solve this problem?*)



# **Function Analysis**

and

# FAST

# Example



### Function Analysis System Technique (FAST) Model



**Right Scope Line** 

Left Scope Line



### **Definition**

<u>Function:</u> The intent or purpose that the product, process or service is expected to perform in it's normal manner. (Described using an active verb and a measurable noun)

<u>Activity:</u> The action of a function. (May also be described using a verb & noun)



## The Language of Function What Does It Do?



### **Description** Function

Steel Blank Support Load

Galvanizing

**Resist Corrosion** 

Holes

**Allow Attachment** 

**Steel Strap Hanger** 

### Mapping and Testing Function Relationship





# **Creating A Flame**



# **Creating A Flame**



# **Creating A Flame**



# Detailed FAST Overview



Read from the EXIT LINE of the function

### Why is Value Methodology Different?



### **Function Word Bank**

		VERBS					NOUNS		
absorb	contain	filter	manufacture	resist	access	contracts	growth	oxidation	skill
accelerate	contract	find	match	resolve	accuracy	core	guidelines	pace	solids
accept	control	flow	measure	restore	achievement	corrosion	habits	package	sounds
achieve	convert	forces	mesh	restrict	action	cost	history	parts	sources
actuate	coordinate	form	modify	retain	activities	criteria	idea	passage	space
adjust	correct	fulfill	modulate	reuse	adjustment	current	image	pattern	specialists
advise	cover	furnish	monitor	reverse	agreement	customer	impact	people	specification
aid	create	nane	motivate	reward	alignment	damage	Impression	performance	standards
alort	decrease	gaye	mount	rotate	alignment	data	incontivo	piece	structure
alian	define	ganorato	mount		anternative	deflection	information	plan	study
allocato	deline	generale	multiply	Sausiy	appearance	demand	iniury	notential	SUCCESS
allocate	delay	group	multiply	save	area	density	insulation	power	suggestions
allow	deliver	guard	negotiate	schedule	assembly	design	interest	pressure	suppliers
alter	demonstrate	guide	observe	scrap	assets	details	interface	principles	supply
approve	determine	harden	obtain	separate	assumptions	development	inventory	priorities	surface
arrange	develop	heat hide	occupy	service	attention	deviation	labor	problem	surplus
assemble	direct	highlight	offer	set	attitudes	differences	launch	procedure	systems
assign	discharge	hold	operate	shield	authority	dimension	layout	process	task
assist	discuss	Identify	order	shorten	awareness	direction	length	product	team
assure	disperse	Ignite	package	show	balance	distortions	level	profit	teamwork
avoid	display	Illustrate	permit	specify	bending	distributions	liability	program	temperature
award	dissipate	Impact	plan	speed	benefits	document	life	progress	terms
blend	distribute	implement	position	sprav	bids	downtime	light	projection	test
broaden	document	Improve	prepare	start	budget	dualization		proposal	time
build	ease	Increase	prescribe	store	buyer	officionov	load	quality	torque
calibrate	educate	Indicate	prevent	supply	campaign	effort	management	rating	treatment
certify	eiect	Influence	process	support	catalog	electrons	mannagement	records	uniformity
challenge	eliminate	initiate	procure	suspend	catalyst	elements	market	repairs	unique
changes	emit	Inject	produce	terminate	change	emissions	material	request	user
changes	omnty	Inject	produce	toot	checklist	energy	measurement	requirements	vacuum
charme	emply	install	project		circuit	entry	method	resources	value
charge	enciose	instruct	promote	trast	claim	equipment	mixture	responsibility	vapor
circulate	ennance	Insulate	protect	таск	classes	errors	model	restrictions	variation
clarity	establish	integrate	raise	train	clearance	experience	moisture	results	vendor
classify	estimate	interrupt	receive	transfer	climate	failure	mold	rigidity	vibration
clean	evaluate	invert	record	transmit	comparison	feasibility	motion	risk	views
close	exchange	investigate	redirect	transport	compartment	feedback	movement	rotation	voltage
combine	exhaust	isolate	reduce	turn	compliance	flexibility	noise	rules	volume
complete	expand	join	reflect	update	component	flow	objectives	satety	volunteers
compress	expedite	limit	regulate	use	concept	forco	oponing	schodulo	warranty
conduct	explore	load	release	validate	conflict	forecast	operator	sorios	wasic
connect	fabricate	locate	remove	vary	conformance	friction	opinion	service	weight
consolidate	facilitate	maintain	repair	verify	contact	fumes	opportunity	shaker	workload
construct	fasten	manage	request	-	contents	goals	order	signal	
								-	



### Function Determination & Cost

ACME Pencil Co.

		NOL	FUNCTION								
ITEM	DESCRIPTION	FUNCT NO.	ONE VERB	ONE NOUN	BASIC	SEC.	QTY.	COST UNIT	COST DEVICE	FUNC. WORTH	REMARKS
1	Pencil		Make	Marks	x		1	2.92	2.92	2.92	
2	Eraser	1	Remove	Marks		Х	1	.43	.43	.3	Should not tear paper
		2	Secure	Eraser		Х	1				
3	Band	3	Improve	Appear- ance		Х	1	.25	.25	.62	
		4	Support	Lead		Х					
4	Body	5 6	Transmit Accom.	Torque Grip		X X	1	.94	.94	.85	
		7	Display	Info		Х					
5	Paint	8	Protect	Wood		Х	1	.10	.10	.25	
		9	Improve	Appear.		Х					
6	Lead	10	Make	Marks	X		1	1.20	1.20	.9	Should not smear



### **Function Determination & Cost**



DECONDENSI	rion		FUNCTION				
DESCRIPTION	FUNCI NO	ONE VERB	ONE NOUN	BASIC	SEC.	QTY.	COST UNIT
Pencil		Make	Marks			1	.0292
Eraser	1	Remove	Marks		Х	1	.0043
	2	Secure	Eraser		Х	1	0025
Band	3	Improve	Appearance		Х	1	.0025
	4	Support	Lead		Х		
Body	5	Transmit	Torque		X	1	.0094
Douy	6	Accom.	Grip		X		
	7	Display	Info		Х		
Doint	8	Protect	Wood		Х	1	.0010
r annt	9	Improve	Appearance		Х		
Lead	10	Make	Marks	X		1	.0120



### Function Analysis System Technique - (FAST)

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# ANSWER MORE QUESTION Attributes. Scale Attributes, Weight Attributes, **Complete Project Profile**

Scope, Questions, Goals, Ground Rules

### Creating a Function Statement

*"Function have generic nouns,* 

Activities have nouns that describe "things"

The Intent or Purpose, NOT how it is USED

The VERB is the 'Action'. It should be active.

The NOUN is the target of the verb. It is where the action is directed. Passive into Active Make the NOUN the VERB

Submit Budget  $\rightarrow$  Budget Expenses Determine Resolution  $\rightarrow$  Resolve Problem Review Test  $\rightarrow$  Test Assumption



### Value Management Pre-Event Orientation and Planning Meeting with FAST

#### Day One AM

Welcome & Introductions (7:00 AM)

VM concepts and workshop format

Project Overview

#### Project Framing

- Team expectations and concerns
- Resolve the 3 project issue questions
  - What is the problem (or opportunity) we are here to resolve?
  - Why do you consider this a problem?
  - Why do you believe a solution is necessary?
- Define (confirm) measurable goal
- Attributes that determine the success of the project
  - · Select and define those attributes
  - · Rank the attributes for trade-off and proposal evaluation
  - Scale the attributes
  - Configure the base case in PPP format

### Day One PM

- · Identify "sacred cows" (paradigms)
- Resolve what is included in the scope of the project(s)
  - What can we change and what cannot change, etc
  - Identify FAST modeling subject(s)

VM Project Planning, Define the project(s) and participating disciplines

- Create a shopping list of information needed for the VM workshop
- Confirm number of teams required
- · Identify team leaders
- Confirm Staff support services for the teams
- · Identify key suppliers
- · Identify team participants and invite to the workshop

#### Day Two AM (7:00 AM)

Logistics and event planning

- Confirm workshop date and location
- Arrange for handouts and any other study guides
- Resolve facility location, room layout, equipment and supplies
- Assign pre-event team research assignments
- Create Action Plan, Pre-workshop assignments

### •Day Two AM/PM (9:00 AM)

- •Function Analysis & Function Analysis System Technique (FAST)
  - Explanation of function analysis
  - Random functions
  - FAST modeling major logic path

### Day Three AM (7:00 AM)

### Function Analysis System Technique (FAST) (continued)

- Complete FAST modeling
- Dimension FAST models

### Day Three PM

Management Briefing (2:30 PM)

Develop management briefing

Brief Management team

Closing comments

Note: This outline is for guidance only and may be tailored to the project and its objectives.

# Value Management Team Study without FAST

#### <u>DAY 1</u>

Welcome

Introductions

#### Information Phase

- Review Project
  - · Give project briefing
  - Review the Team Study process
  - Review goals, objectives, expectations and attributes from the Pre-Study
  - · Add to expectations and concerns
  - Add to constraints
  - · Review and add to the FAST models and matrices
- Tour Factory
- Function Analysis & Function Analysis System Technique (FAST)
  - Explanation of function analysis
  - FAST model review
  - · Select functions for review
- Video The business of Paradigms

#### <u>DAY 2</u>

Review and questions

Review Technology/Benchmarking

#### Creative Phase

Generate Ideas (Brain storming)

#### Evaluation Phase

- Clarify, Merge, and Purge Ideas
  - Champion ideas
  - · Discuss, clarify, and vote (gut-feel index) on ideas
  - Cluster ideas
  - · Select ideas for development

### <u>DAY 3</u>

Review and questions

#### Evaluation Phase (continued)

Complete evaluation phase

#### **Development Phase**

- Write Up Surviving Ideas
  - Discuss benefit and risk criteria
  - Write up surviving ideas (include ideas to be saved in the data base)
  - Contact "on-call" experts to gather supporting data
  - Present ideas for team evaluation
  - Enter surviving ideas in proposal menu

#### <u>DAY 4</u>

#### Review and questions

- Develop Proposal
  - Create cross member proposal team
  - Group surviving ideas into proposal scenarios
  - Conduct benefit/risk analysis
  - Reconfirm evaluation attributes & update star diagram
  - Select primary and back-up proposals
  - Develop implementation plan
  - Resolve any cross team conflicts
  - Create action plan to complete technical and cost information
  - Develop "way forward" plan

#### <u>DAY 5</u>

Complete Proposal Development

#### Presentation Phase

- Develop Plan for Proposal Presentation
  - Develop presentation strategy for management
  - Story board the presentation
  - Create action plan to complete and present proposals
- Present to ERB (TBD)

Note: This outline is for guidance only and may be tailored to the project and its objectives.