

Lean Cost Management

...Taking the Waste Out

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September 7, 2006

Roadmap

- Defining Lean Cost Management
- Lean Up Front
- Lean Processes: Cost and Variation
- Visibility: Seeing is Believing....and Avoiding
- Final Thoughts

Defining Lean Cost Management

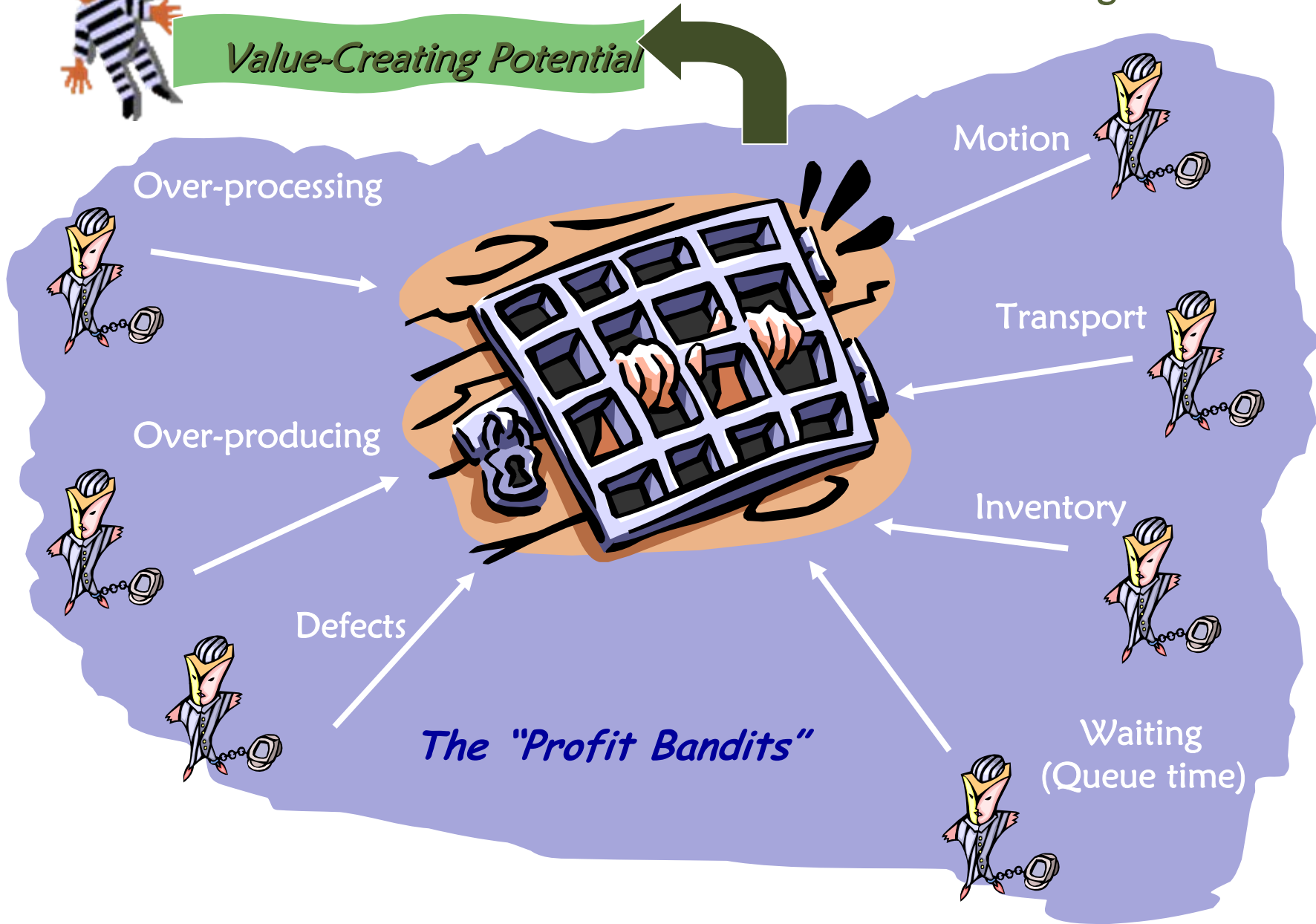
Defining Lean Cost Management

Lean Management Is.....

A process for measuring, understanding, and improving the flow and interactions of all related tasks in order to keep the cost, service and quality of an organization's products and services as competitive as possible.

Waste and the Flight of Value

Value-Creating Potential



Defining Lean Cost Management

Lean Cost Management Is.....

An approach to financial measurement that makes waste and the costs it creates visible, and hence actionable, wherever and whenever it occurs in an organization.

Defining Lean Cost Management

Effective lean cost management systems:

- Look like the processes they measure
- Emphasize what matters
- Are accurate, not precise
- Acknowledge...and reflect....desired behavioral results
- Integrate with other lean metrics

Lean Up Front

Lean Up Front

There are many ways we can affect costs before they occur....

preventing is easier than

eliminating waste.

Lean Up Front

- Supply chain domain—Creating Partnerships
 - *Working with suppliers to eliminate design features that increase cost and effort*
 - *Creating systems that eliminate transactions, automate re-ordering, minimize inventories, minimize re-design, and maximize the thru-put of both your....and your vendor's...processes.*

Lean Up Front

- In the Customer Domain.....

Ensuring that the products and services
delivered meet customer requirements—
no more, no less.

Lean Up Front: *Cost vs. Value*

What do we do today?

<u>Activities</u>	<u>% of Resources</u>
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Produce manuals	60%
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Answer hotline	15%
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Help locate repair/support services	10%
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Revise manuals & send updates	10%
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Respond to letters	5%
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What does the customer value?

<u>Activities</u>	<u>% of Customer Value</u>
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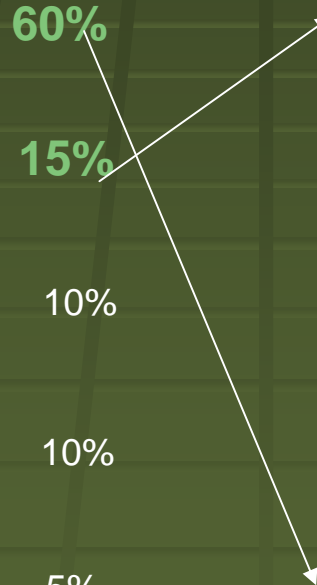
Hotline support	60%
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Help locate repair/support services	20%
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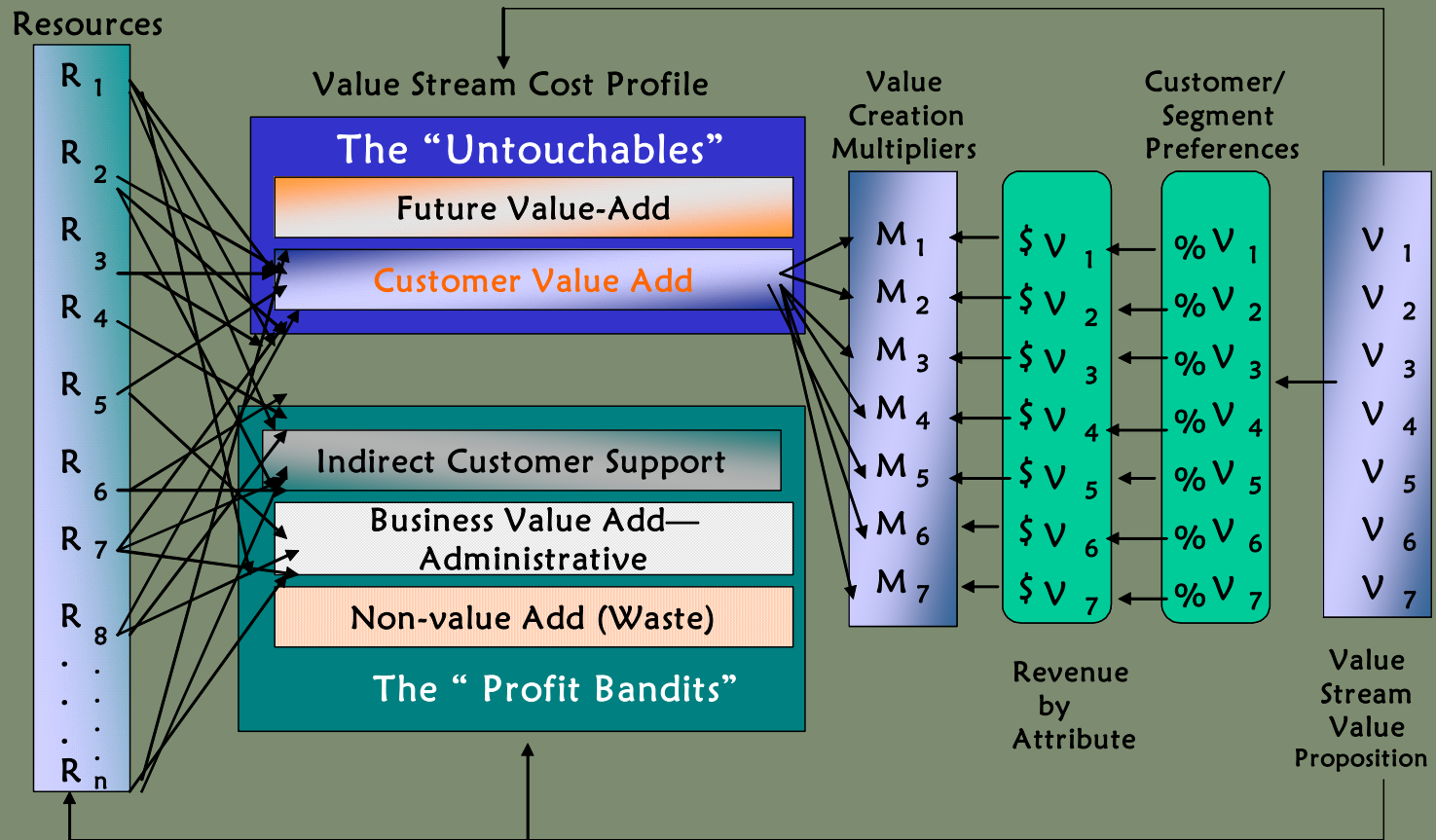
Respond to inquiries	10%
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Updates and other services	5%
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Manual availability	5%
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Customer-Driven Lean Cost Management

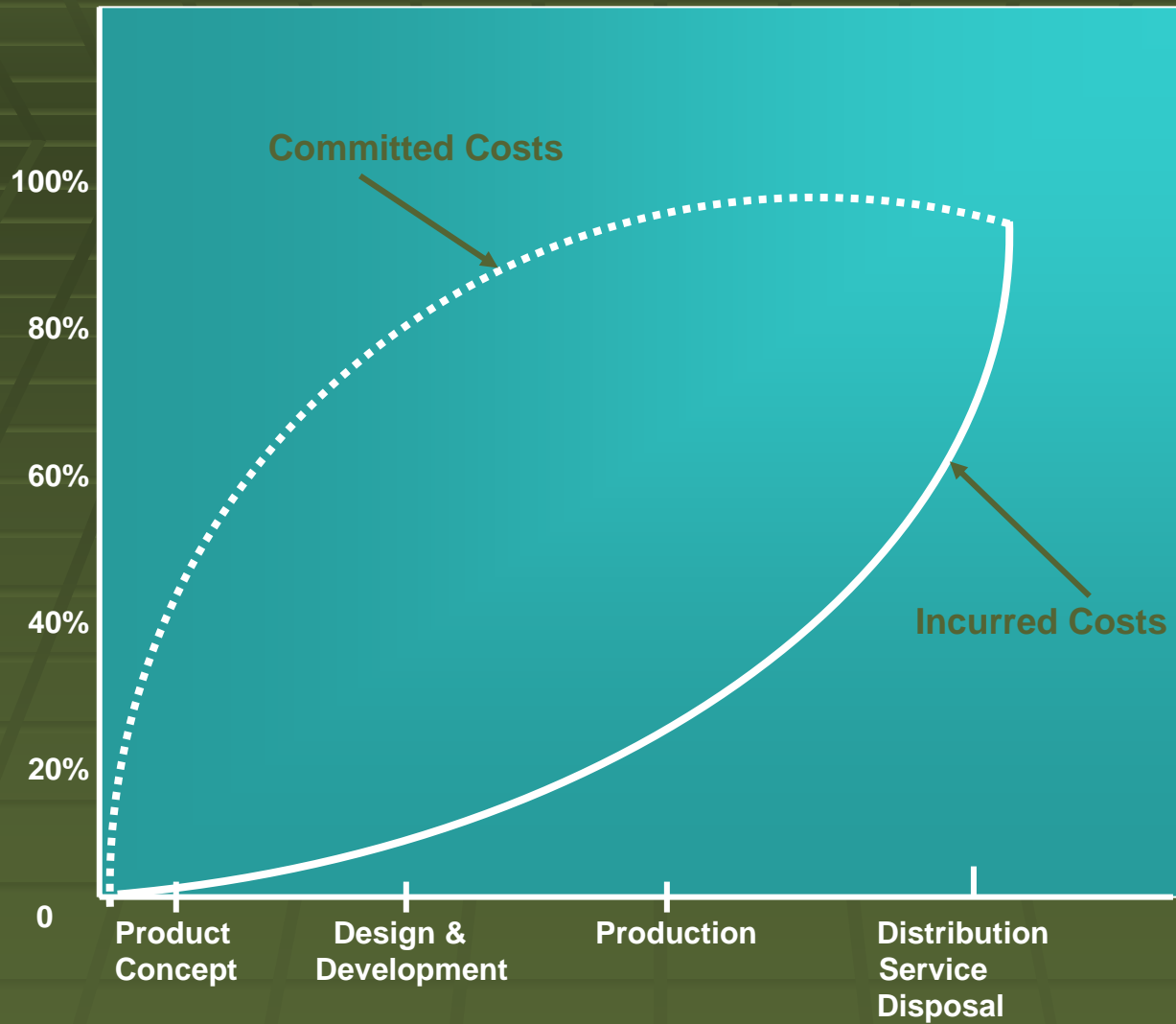


Lean Up Front

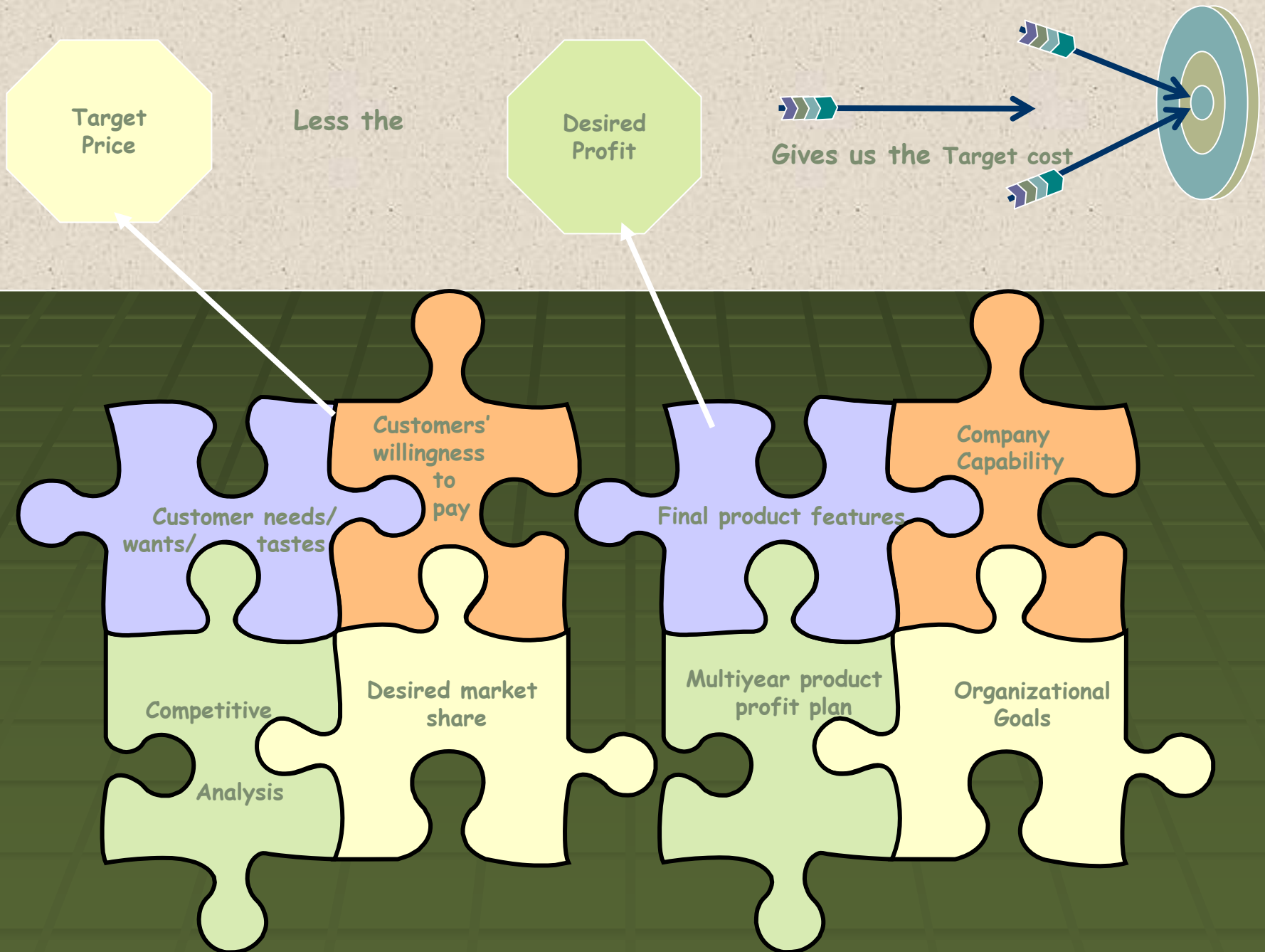
At the Product Level.....we turn to Target

Cost Management to maximize product
performance while minimizing design and
production waste.

Committed versus Incurred Product Costs



Adapted from Berliner and Brimson, *Cost Management for Today's Advanced Manufacturing Systems*, Bedford, TX: CAM-I, 1991: 140.



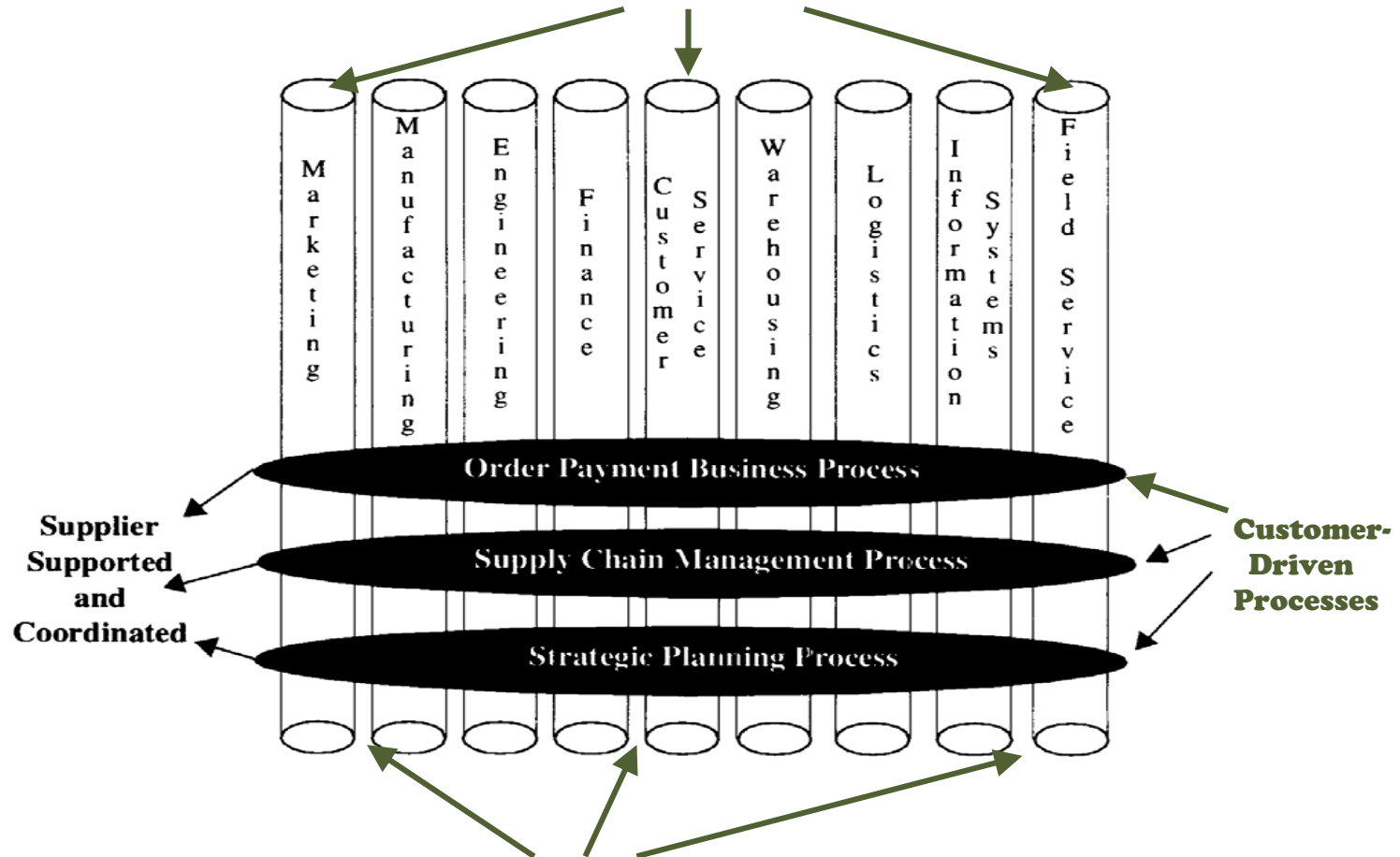
The Basic Concept

Target Price	\$ 100.00
- Desired Profit	<u>20.00</u>
Allowable cost	\$ 80.00
- Current Cost	<u>84.00</u>
Target Cost	\$ 4.00

Lean Up Front

As we move to the Process domain, we
begin to “look like” Lean Management....

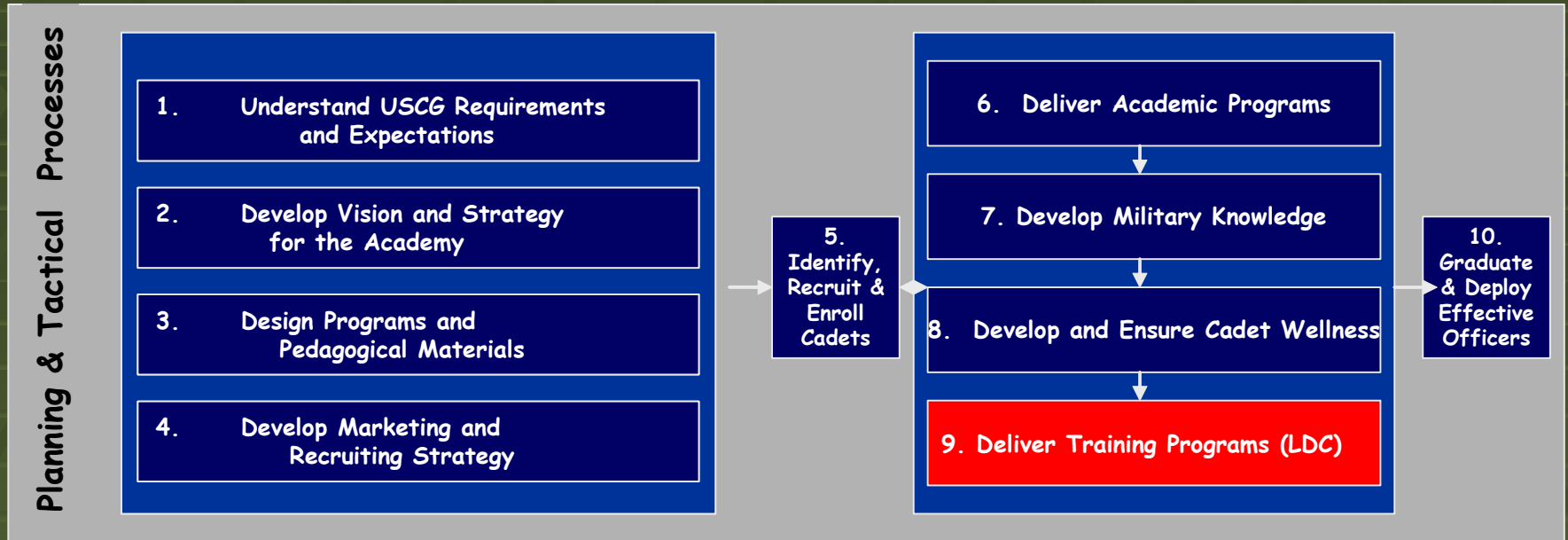
Vertical Metric Alignment to Process/Enterprise Goals



Vertical Integration: Managing the Interdependence

US Coast Guard Academy

Process Classification Framework



Process Cost Summary							
Process Code	Process Description	Budget		Salaries	Operating Budget		
		\$ 49,263,691		\$41,297,691	\$ 7,966,000		
		Total Process Cost	% Direct Cadet Benefit	% Indirect Cadet of Student Activities	% Future Academy Value-Add	% Acad Admin	% Non Value-Add
1	Understand USCG Requirements & Expectations	\$ 389,474	\$ 5,962	\$ 45,686	\$ 214,115	\$ 96,651	\$ 27,059
		0.79%					
2	Develop Vision & Strategy for the Academy	\$ 813,652	\$ 22,185	\$ 28,515	\$ 451,463	\$ 194,834	\$ 116,655
		1.65%					
3	Design Programs and Training Materials	\$ 2,014,872	\$ 552,422	\$ 214,176	\$ 727,977	\$ 431,289	\$ 89,008
		4.10%					
4	Develop Marketing/Recruiting Strategy	\$ 488,642	\$ 18,269	\$ 22,026	\$ 266,451	\$ 114,625	\$ 67,271
		0.99%					
5	Identify, Recruit & Enroll Cadets	\$ 2,151,132	\$ 600,453	\$ 108,261	\$ 922,490	\$ 418,757	\$ 101,169
		4.37%					
6	Deliver Academic Programs	\$ 10,866,769	\$ 7,041,154	\$ 1,377,721	\$ 1,686,168	\$ 548,099	\$ 213,626
		22.09%					
7	Develop Military Knowledge & Preparedness	\$ 1,948,208	\$ 1,383,351	\$ 188,788	\$ 289,193	\$ 74,063	\$ 12,813
		3.96%					
8	Develop & Ensure Cadet Wellness	\$ 6,279,520	\$ 5,180,351	\$ 646,221	\$ 176,381	\$ 268,348	\$ 8,218
		12.77%					
9	Deliver Training Programs (LDC)	\$ 511,201	\$ 278,938	\$ 45,634	\$ 118,061	\$ 61,788	\$ 6,780
		1.04%					
10	Graduate & Deploy Effective Officers	\$ 792,767	\$ 323,427	\$ 71,508	\$ 89,877	\$ 245,183	\$ 62,772
		1.61%					
11	Develop & Manage Human Resources	\$ 2,939,062	\$ 131,324	\$ 834,703	\$ 393,367	\$ 1,268,007	\$ 311,661
		5.97%					
12	Manage Information	\$ 1,398,218	\$ 180,739	\$ 303,269	\$ 252,578	\$ 523,673	\$ 137,960
		2.84%					
13	Manage Financial and Physical Resources	\$ 11,944,076	\$ 4,609,590	\$ 3,707,617	\$ 1,095,870	\$ 2,042,805	\$ 488,194
		24.28%					
14	Manage Legal, Military & Academic Records & Relationships	\$ 3,954,311	\$ 220,532	\$ 776,733	\$ 1,018,777	\$ 1,484,667	\$ 453,602
		8.04%					
15	Execute Outreach/Public Relations Programs	\$ 1,925,734	\$ 590,984	\$ 501,197	\$ 397,245	\$ 273,998	\$ 162,310
		3.91%					
16	Manage Improvement & Change	\$ 774,804	\$ 180,745	\$ 127,813	\$ 373,986	\$ 28,590	\$ 63,669
		1.58%					
TOTALS		\$ 49,192,441	\$ 21,320,427	\$ 8,999,868	\$ 8,473,998	\$ 8,075,379	\$ 2,322,768
		100.00%	43.3%	18.3%	17.2%	16.4%	4.7%

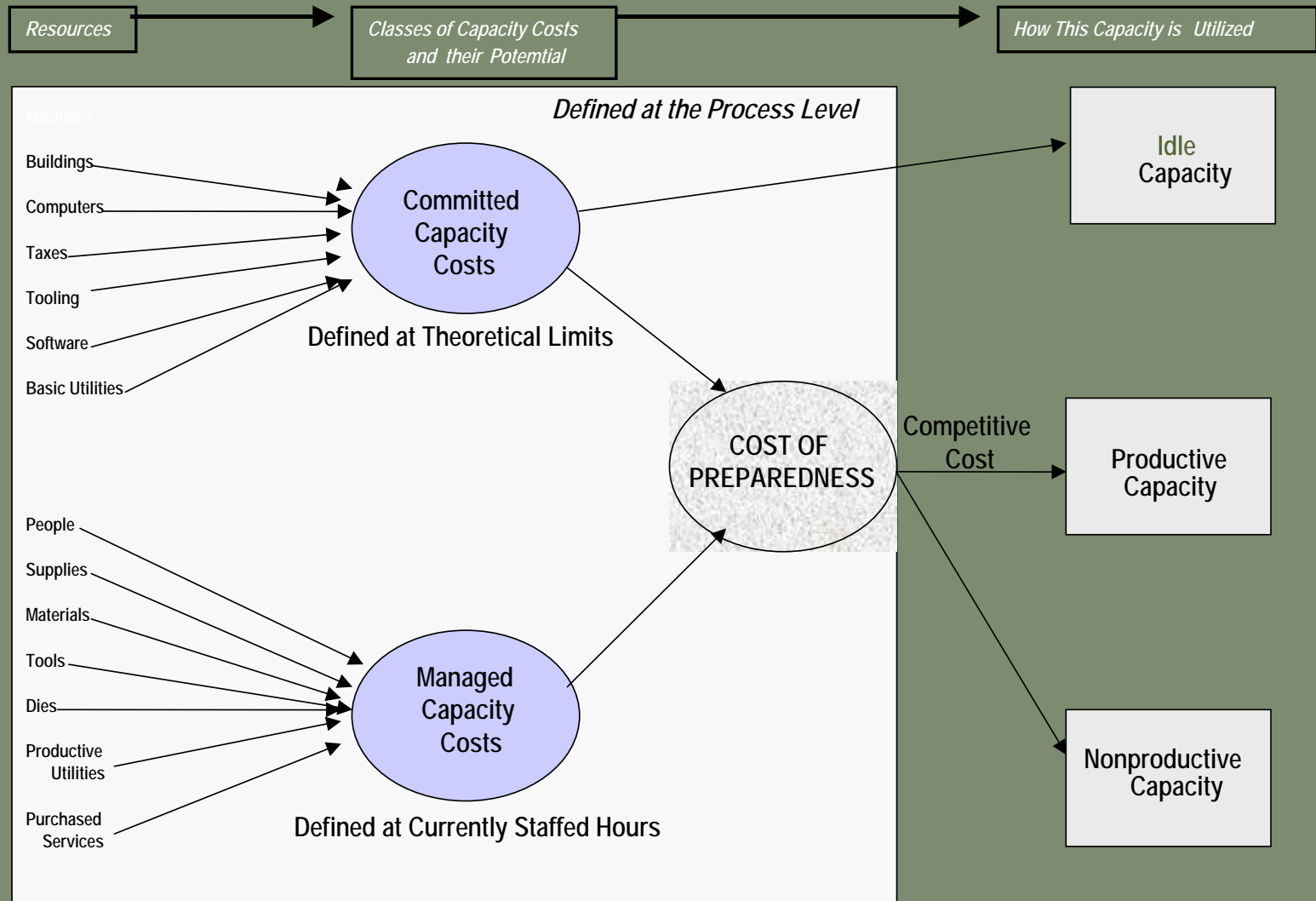
Lean Up Front

Processes are made up of activities and resources. We build lean processes by understanding the activities that comprise them.

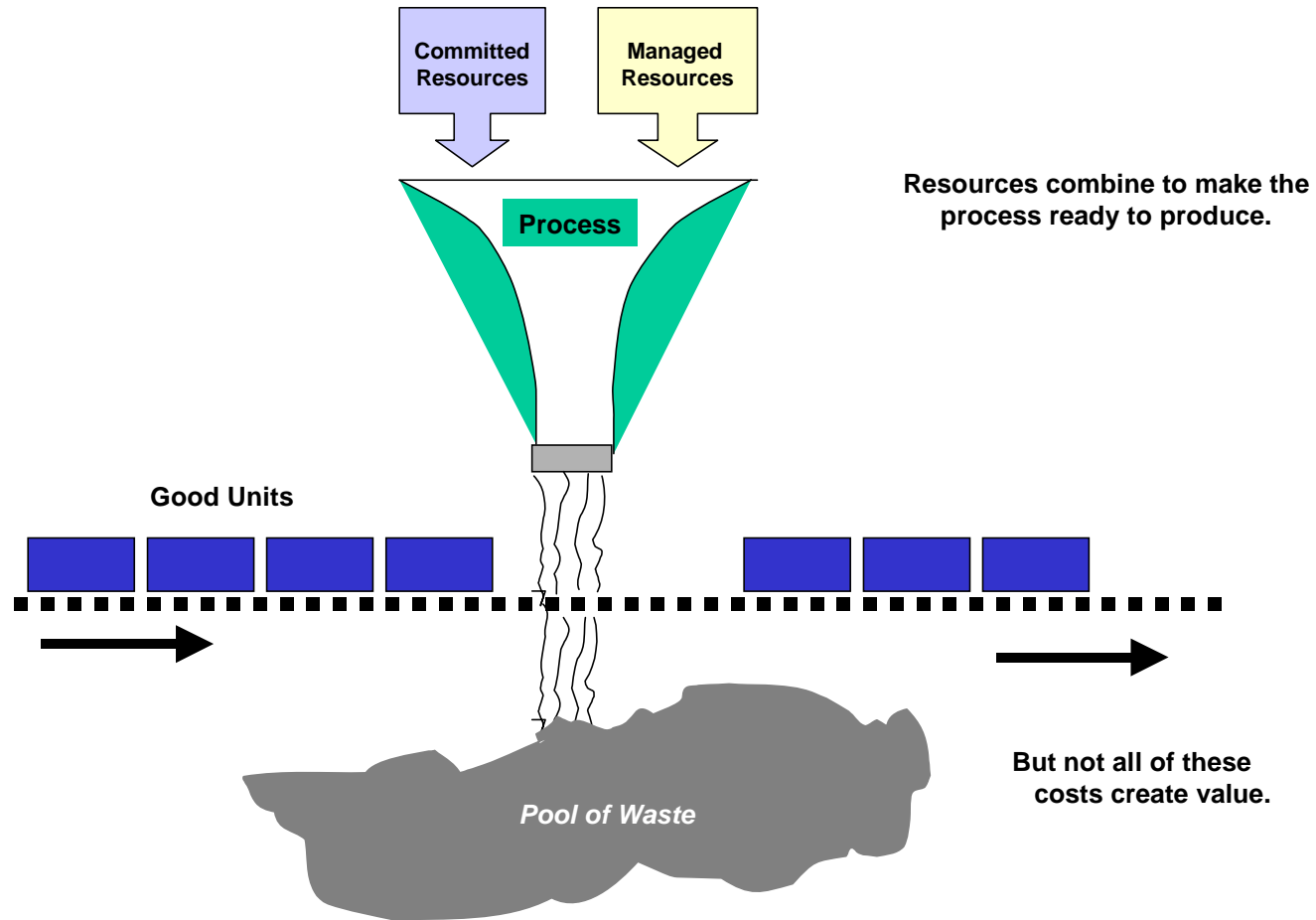
Lean Up Front—Activities

		2. Activity-Value Assignment						
		For each activity from step (1), please estimate the percentage of this effort that would be considered customer value-add						
		(a customer would pay for it), business value-add (C, F or A), or non value-add.						
CC	Process Code	Activity Description	% Direct Student Benefit	% Indirect Support of Student Activities	% Future Academy Value-Add	% Acad Admin	% Non Value-Add	Total (Must equal 100%)
gp	14	Generate transcripts		80%		10%	10%	100%
gp	3	Build master schedule	60%	20%		10%	10%	100%
gp	12	Decision support--CGA		30%	30%	20%	20%	100%
gp	11	Manage/Evaluate personnel				80%	20%	100%
gp	12	Register students	60%	20%		10%	10%	100%
gp	12	Produce cadet schedules	60%	20%		10%	10%	100%
gp	12	Add/drop activities/adjustments	60%	20%		10%	10%	100%
gp	6	Academic reviews		40%	0%	30%	30%	100%
gp	12	Degree audits			60%	20%	20%	100%
gp	12	Registration audits			60%	20%	20%	100%
gp	15	Field inquiries from depts, students, etc.		30%	30%	20%	20%	100%
gp	14	Filing & recordkeeping				80%	20%	100%
gp	2	Manage information system development			80%	20%		100%
gp	11	Professional development			80%		20%	100%
gp	3	Product course catalog--maintain	60%	20%		10%	10%	100%
gp	14	Meetings/Projects--Administrative				80%	20%	100%
gp	3	Meetings/Projects--Curricular		30%	30%	20%	20%	100%
gp	2	Planning meetings/committees/projects			60%	20%	20%	100%
gp	0	0						0%
gp	0	0						0%

Building Capacity: Resources vs. Systems



Lean Up Front: Capacity



Lean Up Front: Capacity

Capacity Report

Southwest Airlines Example

Year Ending: 12/31/2000

(in millions of dollars)

Summary Category	Industry Specific	Category	Hours	% of total hrs	Cost Code	Cost Rate	Total Dollars	% of total \$'s	Type of Cost
Idle Capacity	Off Limits	Airport/Flying Restrictions							Unavoidable Idle
	Marketable	Unscheduled--Idle in Hangar							Waste
	Total Idle Capacity								
Non-Productive Capacity	Standby	Repositioning Aircraft							BVA-??
		Idle--Scheduling Gap							Waste
	Quality Issues--Delays not due to Eq.	Crew Shortages--Scheduling Problems							Waste
		Crew Shortages--Lbr/Mgt Problems							Waste
		Repositioning aircraft--schedule prob.							Waste
		Baggage handling delays							Waste
		Wait for connecting flights							BVA-??
	Maintenance	Unplanned Maintenance							Waste
		Scheduled Maintenance							BVA-Current
	Set-ups	Load Passengers							BVA-Current
		Unload passengers							BVA-Current
		Airplane servicing							BVA-Current
		Tarmac "Time"							Waste
	Load Factor Loss (Yield)	In Flight Time							Waste
		Take-Off							Waste
		Landing							BVA-Current
	Uncontrollable Delays	Weather delays/rerouting							Uncontrollable
		Air traffic delays--in flight							Uncontrollable
		Passenger emergencies							Uncontrollable
		Airport delays--on ground							Uncontrollable
	Non-Work Related	Personnel training							BVA-F
		Developmental projects							BVA-F
		Publicity							BVA-A
	Total Non-Productive								
Productive Capacity	In Flight Time								Value-Add
	Take-off								Value-Add
	Landing								Value-Add
	Total Productive								
	Total Capacity Hours + Costs								

Number of planes within class

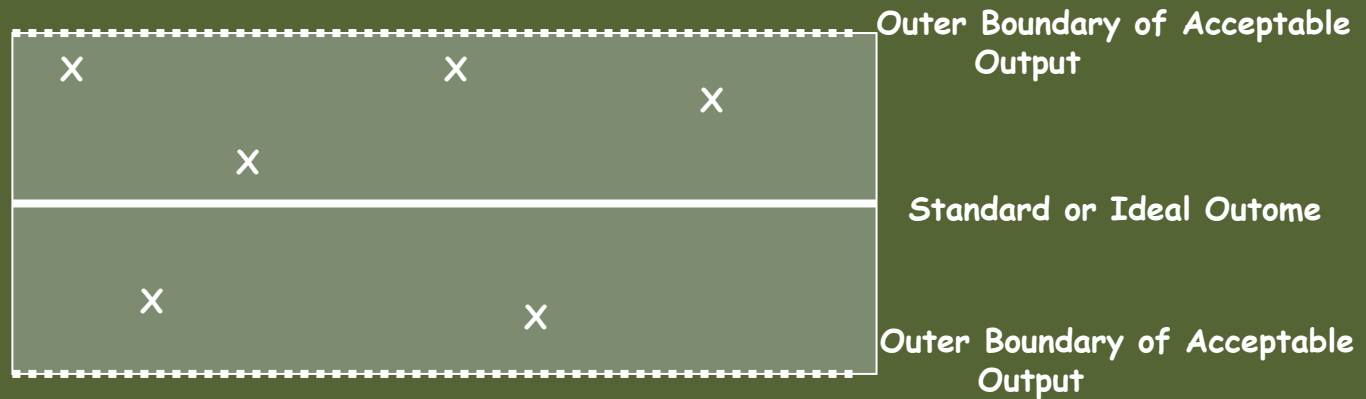
Variances

Standards

Lean Processes:

Cost and Variation

Variation and Process Performance



This observation is outside the acceptable range. The process will need to be adjusted.



Variation and Process Performance

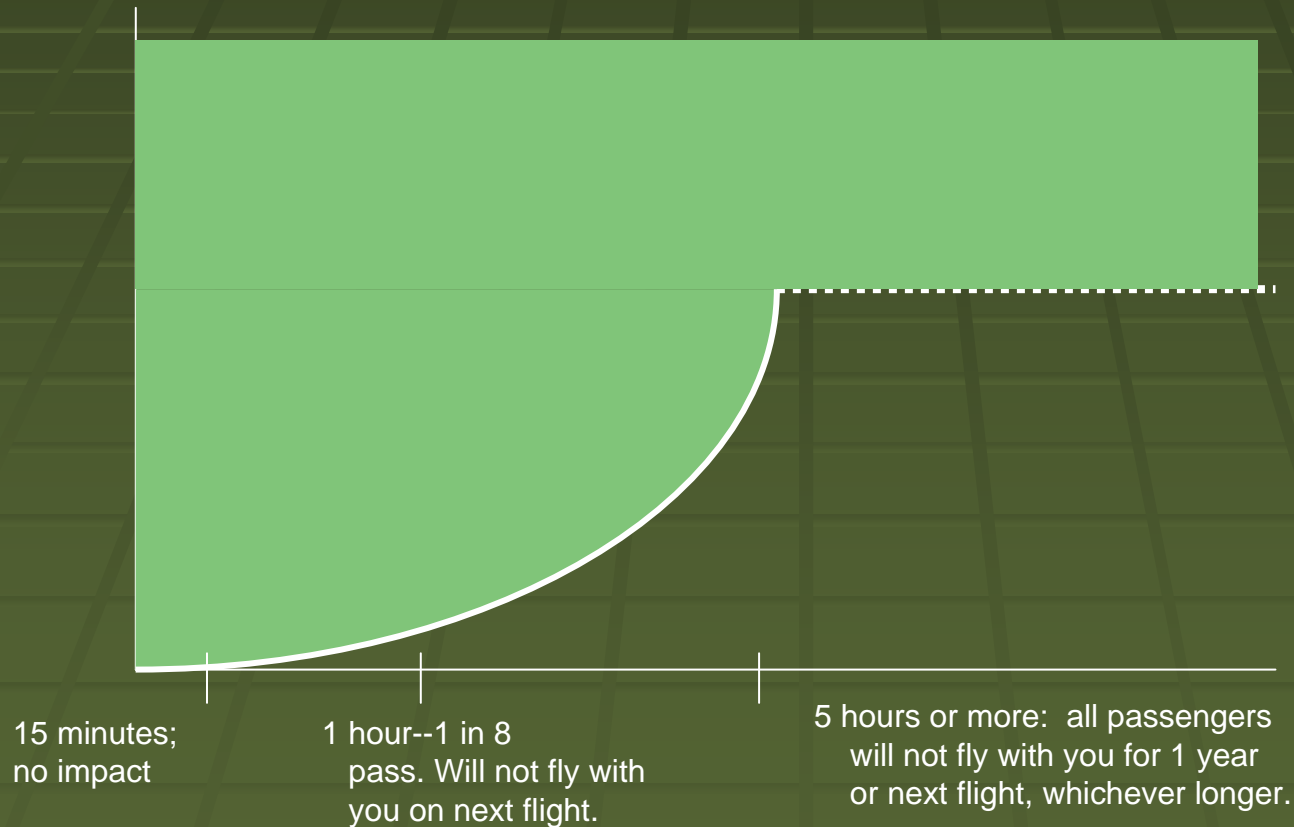
The Issue

$$.99^{15} \times .95^4 \times .80^1 =$$

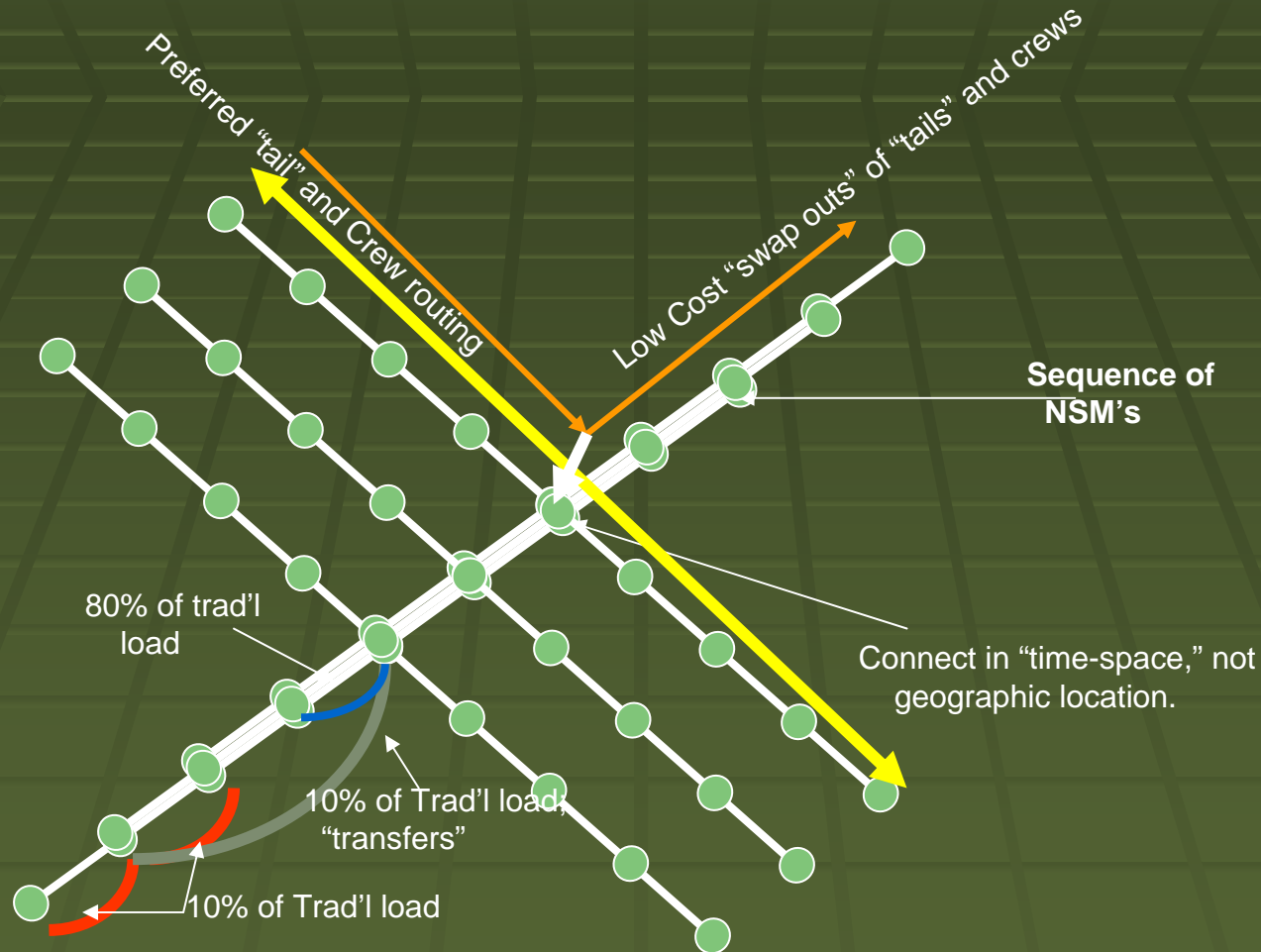
56% First Pass Yield!!

Variation and Process Performance

Customers get exponentially “angrier” as the length of the delay increases.

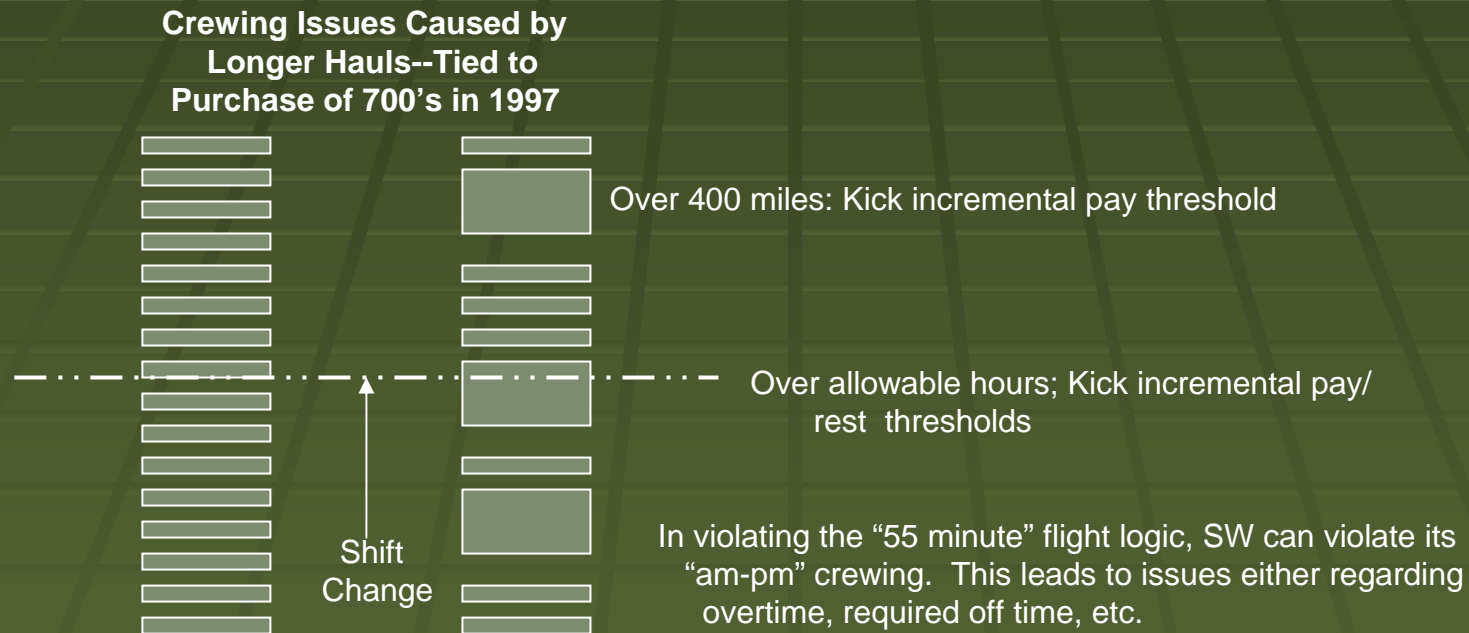


Variation and Process Performance



Variation and Process Performance

But.....Long haul flights and an increase in transfer, or “thru” passengers, violate most of these assumptions!!



Variation and Process Performance

- Variation....accumulates
- Variation....disrupts
- Variation....generates waste

Exponentially!

Visibility

Seeing is Believing...and Avoiding

Visibility

- What gets measured becomes “visible”
- What gets rewarded gets done
- Or....as is more commonly noted

You get what you measure & reward

Visibility

Lean Process Metrics

- Time: Process time, lead time, & value-added time
- Changeover time
- Typical batch sizes or practices
- Demand rate
- Percent complete & accurate

Visibility

Lean Process Metrics

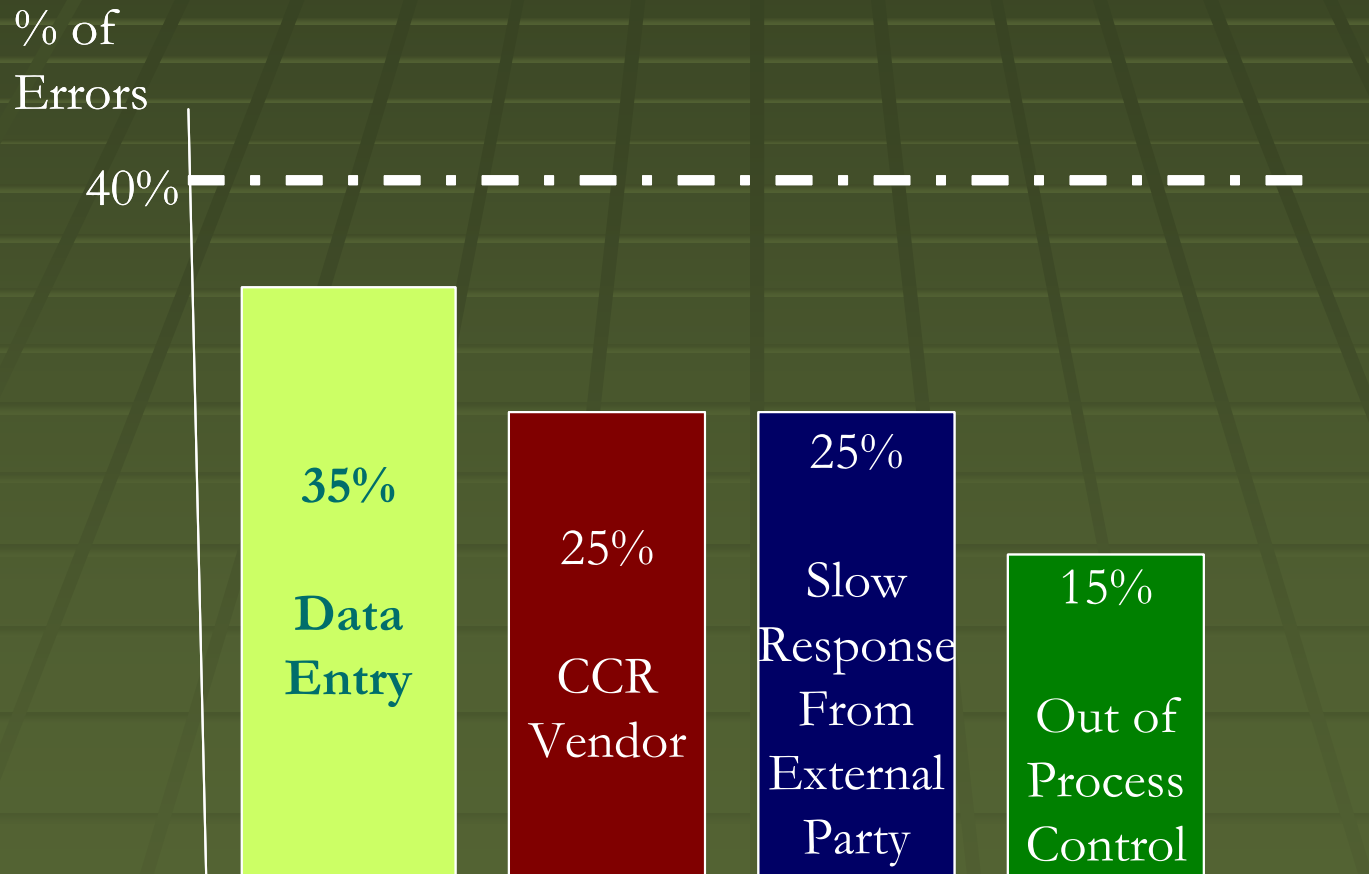
- Reliability
- Number of people
- Inventory
- Information technology used.
- Available time

Visibility

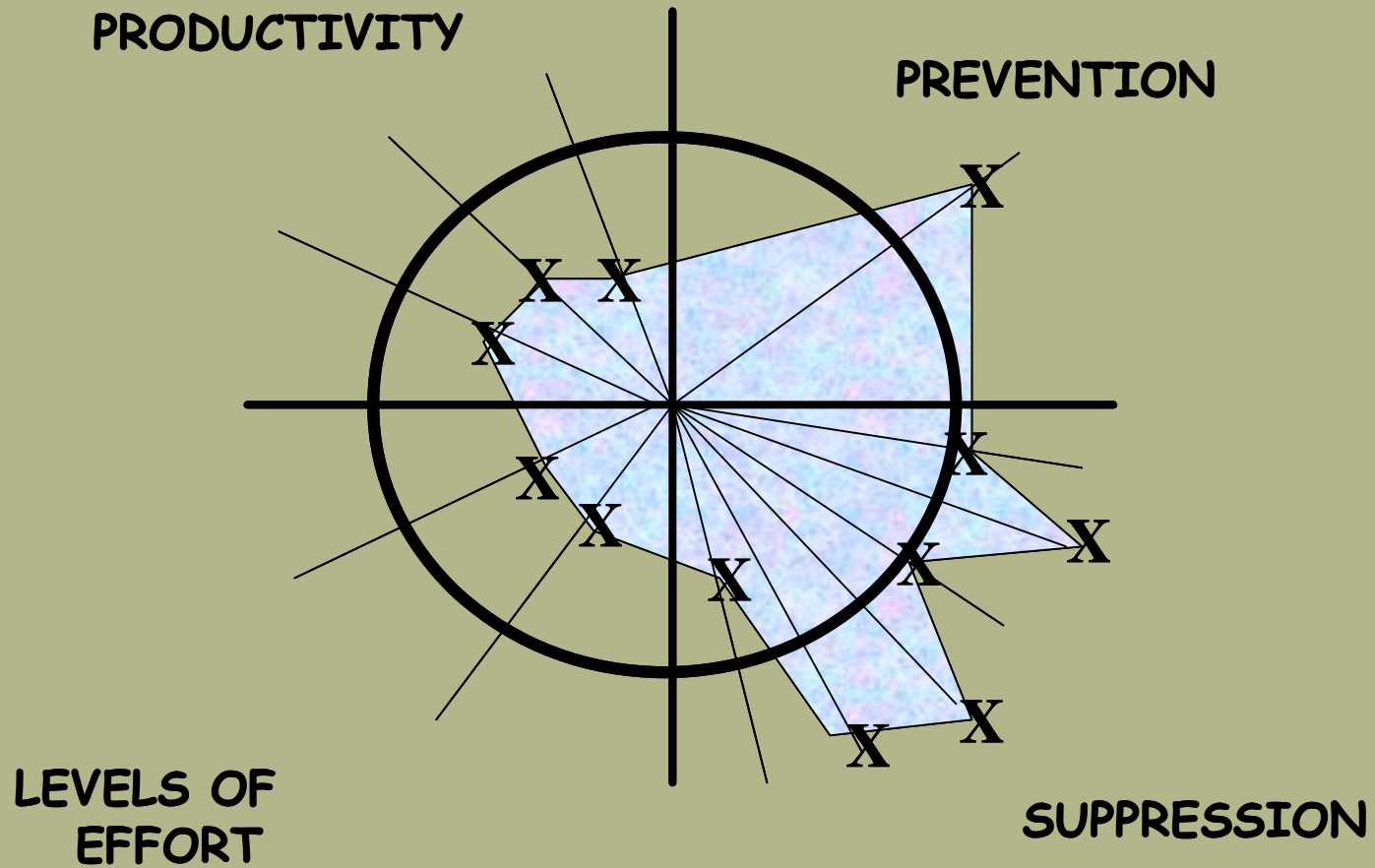
- These are the more “traditional” ways to think about measuring....and managing processes and performance.
- There are other options and other ways to make waste and performance visible.....

Visibility

Pareto Analysis by Source



Visibility



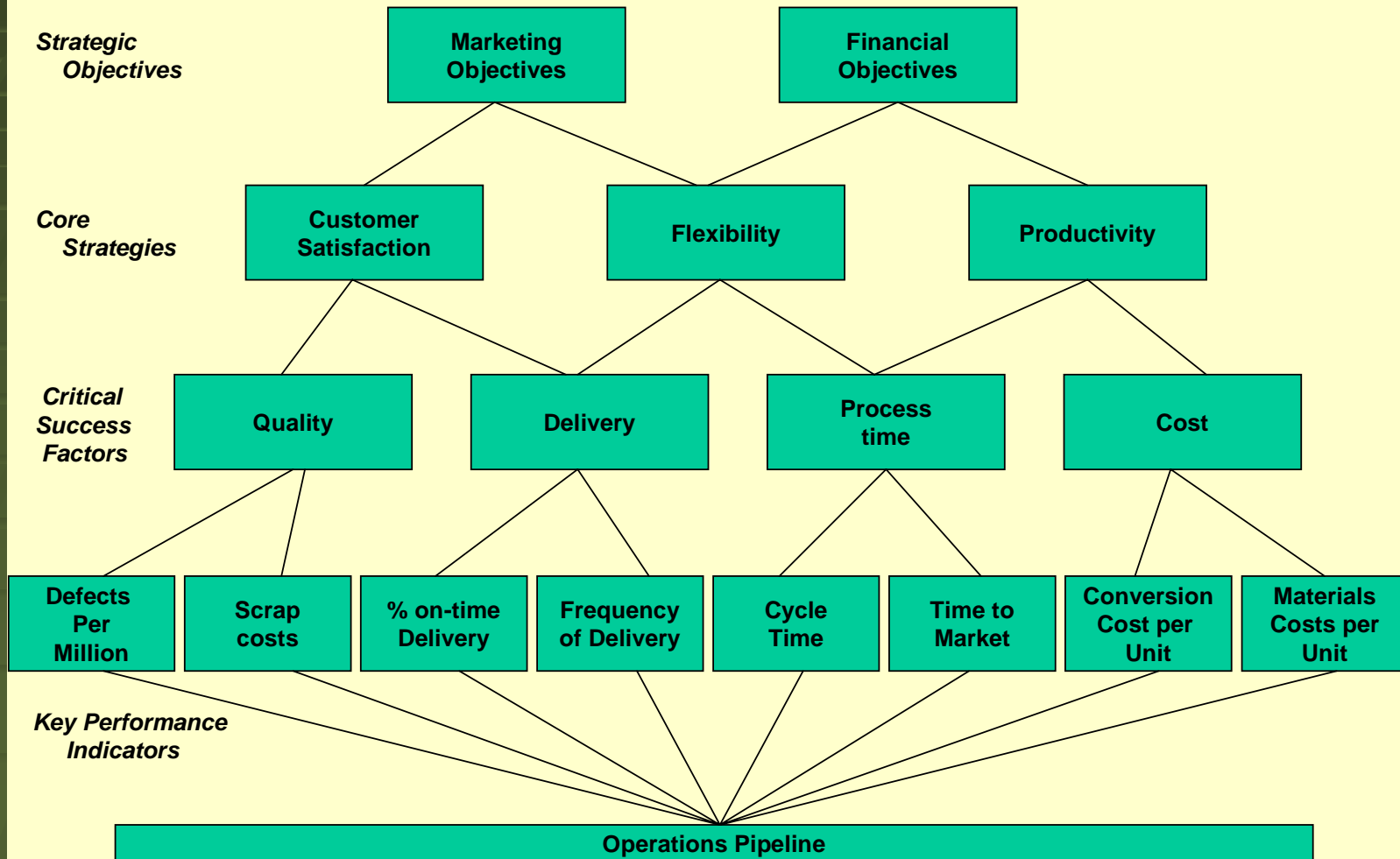
An Accountant's Perspective

Regardless of the performance improvement methods and tools that companies choose to apply, they should be aware that their enterprises are subject to certain natural properties....One commonly overlooked natural property..is that time, cost and quality are linked, not independent of one another.

Gary Cokins

Visibility

Performance Management—An Integrated View



Final Thoughts

Final Thoughts

- Financials are measures....that matter
- Financial measures are powerful....
- Fact: We are the Machiavelli's of our organizations!

Final Thoughts

Lean Cost Management requires a blended set of tools

- Supply chain management to keep waste out of the system before resources arrive
- Customer value management—to make sure everything we do creates value, not waste

Final Thoughts

- **Target cost management**—to focus product development on cost avoidance, not elimination after-the-fact
- **Process management**—to find waste wherever it hides
- **Capacity cost analysis** to ensure optimal use of our physical assets and resources—to avoid building in waste that cannot be avoided downstream

Final Thoughts

Questions we need to keep in mind.....

- **Definitional:** What are we doing? Why?
- **Structural:** How do we achieve fit?
- **Physical:** What is the best cost model?
- **Cultural:** What impact on behavior?
- **Historical:** What has & hasn't worked?

Final Thoughts

Lean Cost Management Is.....

***A Journey,
Not a Destination***



It's All a Matter of Perspective....

*To the optimist, the glass is half full;
to the pessimist, the glass is half empty;
to the management accountant, the glass is
twice as big as it needs to be.*

Anon