

Manage For Lean Success: The Scorecard Is Not Enough!

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Current Measures

┆ How are you measured today?

➤ Production costs:

- Variances to standard cost
- Yields, scrap rates

➤ Procurement price variance

➤ Department spending: distribution costs, transportation, etc

➤ Customer service fill rates, on time delivery

➤ Quality and safety

┆ Is it possible to 'game' the measures?

┆ How do you improve performance on these measures?

┆ How does Lean impact these measures?

┆ How do these measures relate?



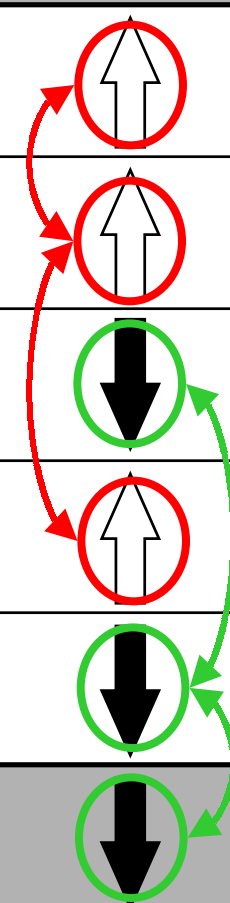
Current Measures

- ┌ How are you successful with these measures?
 - Build large quantities:
 - Amortize setup costs
 - Reduce scrap and quality losses
 - Schedule to reduce setups and quality losses
 - Keep everyone and everything busy
 - Reduce work schedules if people are not needed

The Measures Dilemma

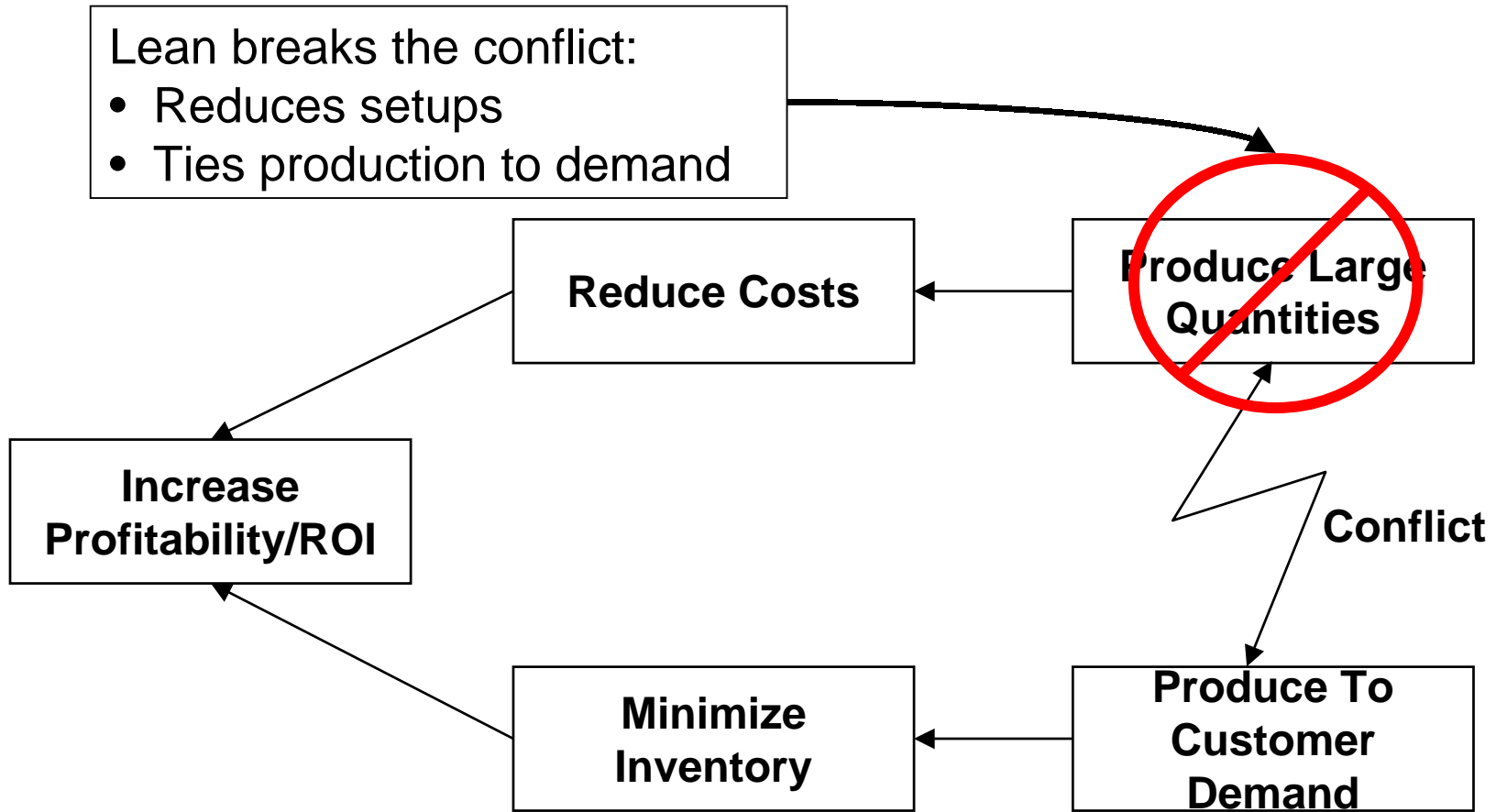
Why do these measures conflict?

ORGANIZATION	OBJECTIVES	CUSTOMER SERVICE	INVENTORY INVESTMENT	MANUFACTURING COSTS	DISTRIBUTION COSTS
Sales/ Marketing	<ul style="list-style-type: none"> ■ Small Quantities ■ Short Lead Times ■ Variety/Flexibility 	↑	↑	↑	↑
Manufacturing	<ul style="list-style-type: none"> ■ Long Runs ■ Long Lead Times ■ Stable Schedule 	↓	↑	↓	↑
Distribution	<ul style="list-style-type: none"> ■ Full Truck Loads ■ Large Orders ■ Rigid Schedules 	↓	↑	↑	↓
Finance	<ul style="list-style-type: none"> ■ Low Inventory ■ Low Capital Investment 	↓	↓	↑	↑
Finance	<ul style="list-style-type: none"> ■ Low Operating Costs 	↓	↑	↓	↓
DESIRED RESULTS		↑	↓	↓	↓



Lean Implications

Performance measures frequently encourage more rather than less production:



Lean Implications

┆ Typical Lean Manufacturing benefits:

Measure	March	May	% Reduction
● WIP Inventory (pieces)	9,000	1,000	88%
● Throughput Time (hours)	73	0.5	99.7%
● Floor space (square feet)	2,600	1,800	31%
● Distance Traveled (feet)	243	106	56%
● Changeover Time (minutes)	150	16	89%
● First-Run Quality Failures (%)	10.1	2.9	71%

┆ How do these improvements affect our typical measures?

┆ What new measures do we need?

Lean Implications

Lean improves some measures, but creates new conflicts:

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DESIRED RESULTS		↑	↓	↓	↓



Lean Implications

- ┌ But does Lean create new conflicts?
 - Stops overproduction to 'reduce' costs and meet budgets
 - Identifies non-value added
 - Reduces overhead costs as much or more than direct costs
- ┌ If Lean improves most, but not all measures and creates new conflicts, what is required:
 - New measures?
 - Something besides Lean?
 - New management?
 - New products?



Lean Implications

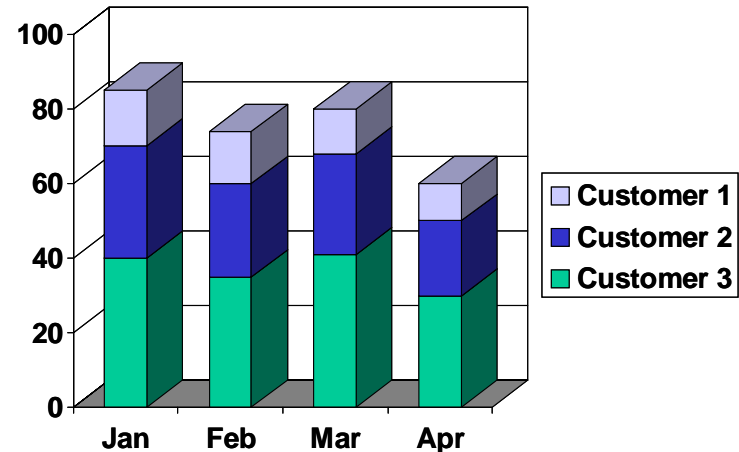
- ┆ Many of the past measures focused on local improvements:
 - May not add up to the total
 - May not actually be improvements
 - Can be measured very accurately locally, not enterprise wide
 - Were critically important at one time
 - That contained fixed costs
- ┆ Since the vast majority of these measures related to reducing production costs:
 - Making higher volumes almost always was better
 - Lean introduced a 'conflict' by limiting production to demand
- ┆ How do we resolve the conflict between producing to 'reduce' costs and making only to pull?

New Ways To Manage

-] In the past, we produced more than was required:

 - Fill capacity
 - Reduce per unit costs
 - Meet absorption budgets
-] This stored 'value', which hopefully was sold later
-] Creating pressure to clear out finished inventory
-] Putting pressure on Sales
-] Creating a situation to reduce prices to improve sales
-] Which disconnected the timing of efforts to maximize production (profit) with later sales and pricing activities

Firm Sales Orders



Sample Inventory Status

	Sales	Inventory	Weeks	Margin
Product 1	9.0	2.0	10.7	\$0.16
Product 2	1.6	0.32	9.2	\$1.66
Product 3	6.0	1.5	11.3	\$0.53
Product 4	5.4	1.39	12.5	(\$0.89)
Product 5	3.2	0.65	9.7	\$1.28
Product 6	10.4	3.4	37.0	(\$0.11)
Product 7	9.2	2.8	17.0	\$0.07
Product 8	5.6	1.4	7.3	\$0.02

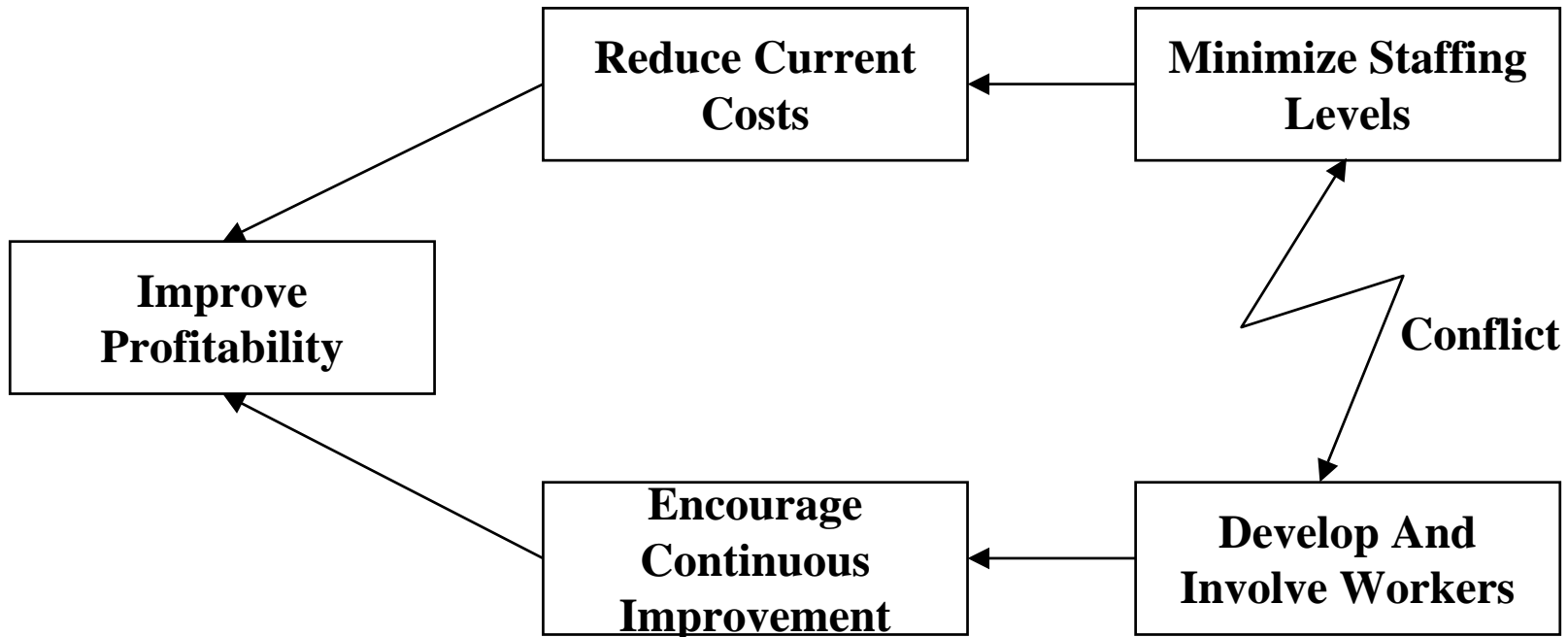


New Ways To Manage

- ┆ Our real dilemma is changing the currently engrained views and norms:
 - People should never be idle
 - We must reduce costs as the number 1 priority
 - Inventory is 'owned' by
 - Production volume is limited by sales
- ┆ These are values and behavioral norms more than just performance measures
- ┆ But how do we change measures, when norms set what we value?
- ┆ Therefore, we must change how we manage to highlight different **NORMS**, not just different **MEASURES**

New Ways To Manage

Why focus on norms and behaviors?



Therefore, we must focus on enterprise TOTAL profit rather than on conflicting functional measures



New Ways To Manage

- ┆ Why is a TOTAL profitability view difficult?
 - Currently measure and manage functions
 - No measures exist
 - Not used to viewing the whole, except at month end
 - Systems implemented around current measures and financial management practices
- ┆ Changing management responsibilities with a total view:
 - Focus on conflict resolution
 - Sales: throughput value added
 - Operations: cost/value profiles
 - Finance: variable versus fixed cost management



The New Measures

- ┆ We must measure differently:
 - Inventory dollar days
 - Cash cost profiles
 - Flexibility profiles
 - Enterprise profitability
- ┆ This requires very different information for:
 - Enterprise profitability trade-offs
 - Revenue and profit prognostications
 - Inventory and cycle times
 - Cost profiles (not standard costs)
- ┆ If we continue to manage with budgets, cost variances, etc we will be right back with conflicts...



Conclusions

- J Current measures restrict flow
- J Lean improves flow and reduces TOTAL costs
- J Measures create conflict across the organization
- J Norms and values drive what we measure
- J An enterprise wide view is required
- J Current systems do not support enterprise views
- J Conflict resolution creates the foundation for new measures
- J Inventories and cash costs are key measures
- J Throughput value added is the ultimate measure



Thank You!

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