



MBOE Program – Project Presentation

THEME: Productivity improvement

Leader: Ken Kontely

Project Started: January 2012

Coach: Ali Yonel - OSU

1. Reason for Action – A company invested \$20m for a machine to cover and paint it's products with high quality and productivity. When production started the company expected a labor cost of \$9 per hundred feet and last year it averaged \$21.83 per 100 feet at an annual penalty of \$601,000 (\$301,000 in OT, \$300,000 in crew size). Improving productivity on this equipment is critical to meeting the company's productivity improvement target.

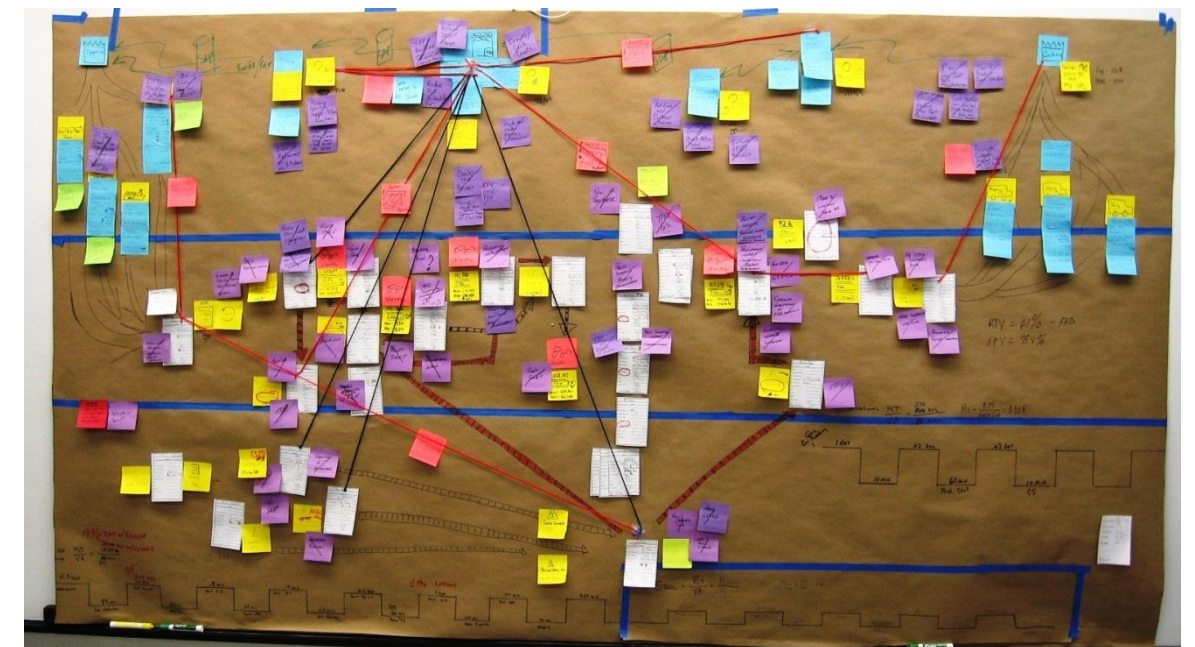
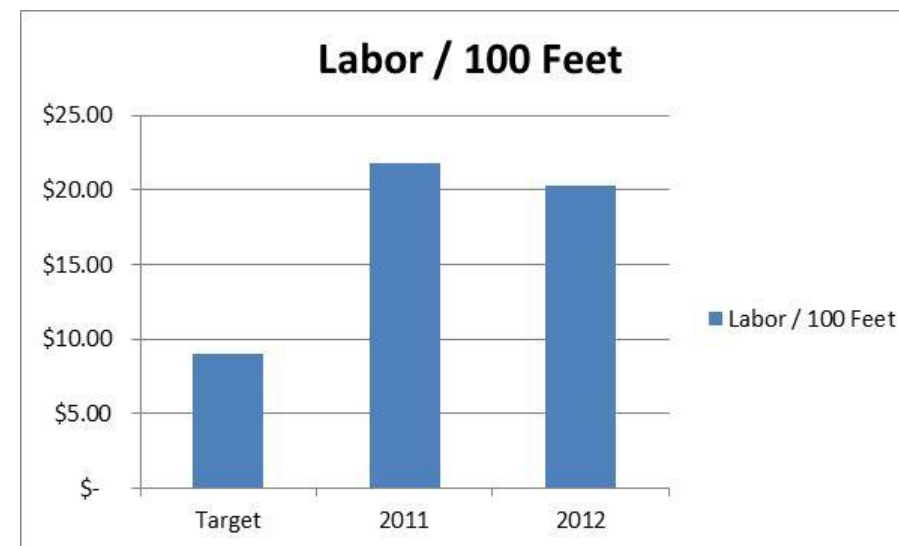
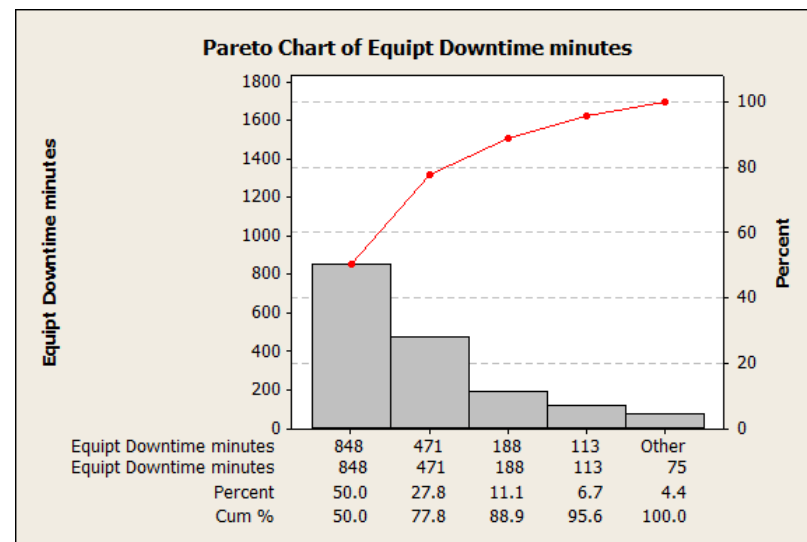
2. Initial State

2011 labor dollars per 100 feet = \$21.83
 55% equipment availability.
 OT \$301k annually
 FPY (87%)
 No measurements for changeover and clean times



3. Target State

2012 labor dollars per 100 feet = \$20.24 – 6% imp
 85% equipment availability.
 OT \$150k annually -50% reduction.
 95% FPY
 Stds. for changeover and clean times and demonstrated conformance



Future State VSM Event - October

5. Solution Approach

5: SOLUTION APPROACH

a. Fix quality issues -

b. Implement Std Work for cleans, changeovers and operators

c. Crew team development

d. Speed accuracy

e. Painter equipment and method improvements - paint drying, paint cleaning

f. Maintenance downtime -

g. lack of line side metrics / visual control

h. Transfer gum to new equipment

Full Factorial DOE

Factors

Line Speed

Compactor pressure

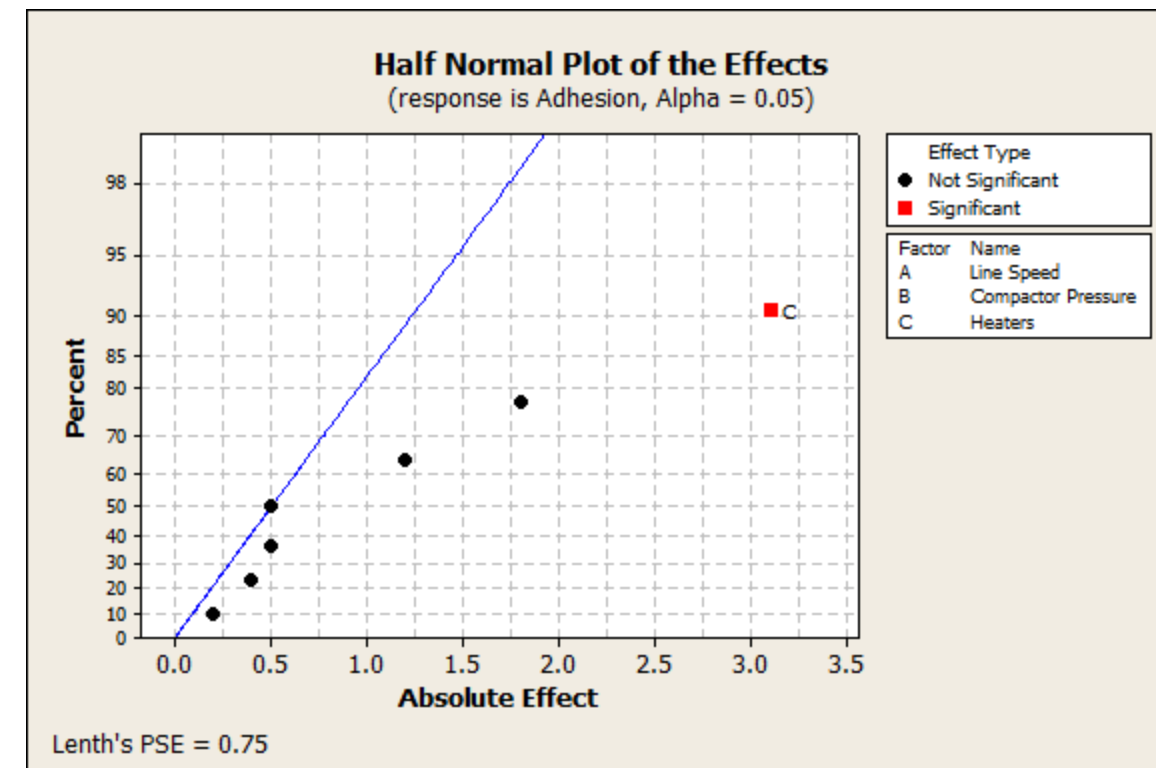
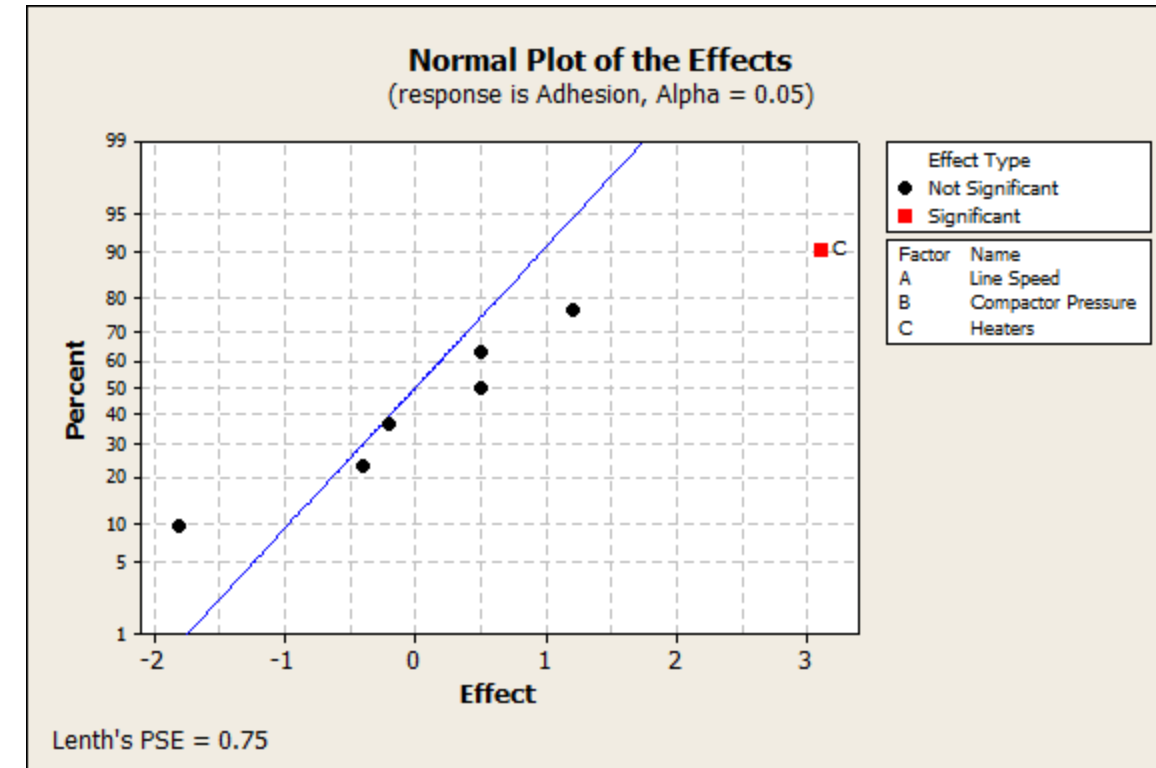
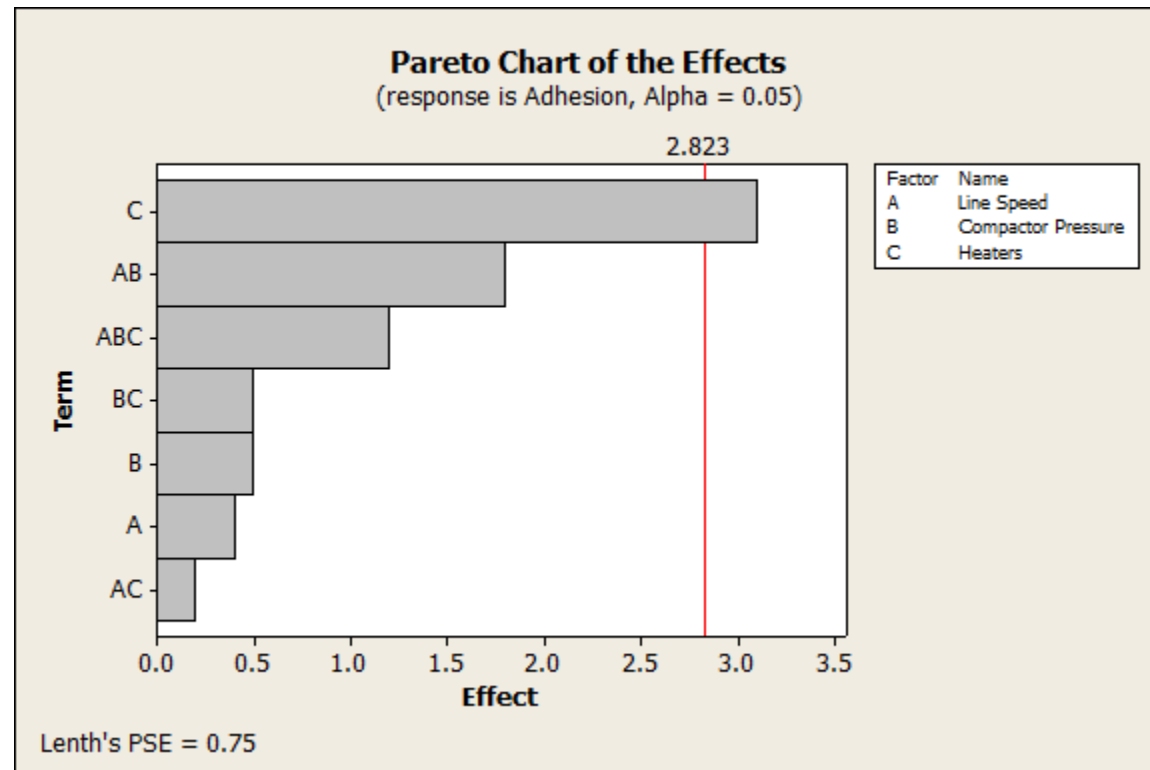
Heaters

Levels

3.5-7.0

2000-4000

On / Off



Heating the roll had a significant effect on top coat adhesion

6. Actions and Next Steps

ACTION ITEM	WHO	DUE DATE		STATUS	Comments
Eliminate one piece of equipment and move to new equipment to improve productivity, quality and to make wider sheets	Smith	10-Jul		Project delayed until ~3/1/12 due to wrinkling issue. Need ~\$250k in additional capital expenditures. Gathering quotes and timing to solidify completion date.	Awaiting quotes from 3 suppliers Due by 12/7.
Painter improvements - tray redesign	Smith	12/31/12		Current capital request reflects need for \$76K.	Await capital approval
Motor failures	Doe	11/26/2012 now 12/31/12		Carcass conveyor motor/gearbox replaced and operating 10/08/2012, cooling can motor/gearbox ordered, 4 week lead time	Now installing at Christmas shutdown vs Thanksgiving
RIE for reducing crew size from 6 to 5	Doe	Q1 2013		Schedule event for Q1 to re-address	Meeting 12/4 to review Std. Work.
Raise extruder RPM's from 14 to 29.	Smith	12/31/12 -80%		Need a complete plan for all compounds. Try to get high runners (80%) completed by year end,	Will trial 3 top compounds in December.

7. Confirmed State

Metric	2012	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Labor per 100 feet - 6%	Plan	\$20.24	\$20.24	\$20.24	\$20.24	\$20.24	\$20.24	\$17.52	\$17.52	\$17.52	\$17.52	\$17.52
	Actual	\$24.10	\$21.90	\$17.33	\$33.16	\$16.39	\$19.40	\$ 19.40	\$27.87	\$29.31	\$25.55	\$20.83
Maintenance Uptime	Plan	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
	Actual	55%	62%	90%	92%	93%	95%	95%	96%	95%	93%	88%
Overtime - 50% reduction	Plan	\$16,700	\$16,700	\$16,700	\$16,700	\$16,700	\$16,700	\$9,300	\$9,300	\$9,300	\$9,300	\$9,300
	Actual	\$24,300	\$15,045	\$17,107	\$12,909	\$9,762	\$9,308	\$13,452	\$ 13,974	\$5,444	\$ 323	\$ -
First Pass Yield - 95%	Plan	87%	88%	89%	90%	91%	92%	93%	94%	95%	95%	95%
	Actual	85%	84%	89%	87%	87%	84%	85%	91%	91%	93%	91%
Compound change-over	Plan	45	45	45	45	45	45	45	45	45	45	45
	Actual	61	53	46	47	46	53	45	49	45	42	43
Painter cleans - min	Plan	403	403	403	360	360	360	300	300	300	240	240
	Actual	504.8	423	418	337	355	300	259	230	231	234	180

Conclusions, Lessons, Cultural Impact

- Contract negotiations from created significant challenges to the project and the operation.
- Plant incoming order volumes declined resulting in 2 waves of significant lay-offs creating multiple job moves in the facility.
- Technical issues have delayed the transfer of gum sheets. The original plan was July 10 and the current plan is March 1.
- Data vs.. opinions prevailed.
- Standard work implementation and sustainment was and is our greatest challenge.
- Based on good follow-up, more and more employees are joining our Gemba walk process.

Results

Before

- Labor Dollars / 100 Ft - \$21.83
- 55% equipment availability.
- OT \$301k annually.
- FPY (87%)
- No measurements for changeover and clean times

After

- Labor Dollars / 100 Ft - \$20.83
- 88% equipment availability.
- OT \$121k annually.
- FPY (91%)
- Daily change-overs from 61 minutes to 43 minutes vs. a standard of 45 minutes.
- Weekly cleans from 504 minutes to 180 minutes.

What's Next?

6 sigma project – reduce scrap from 4.3% to 1.0%.

Increase operator engagement and expand Gemba walks, implement 6S and TPM

Create Level 0 and 3 Hoshin plans