

Leading and Lagging Indicators: Measuring Safety

BILL OWEN

BCMA, RCA, CTSP, QCL



M&M Experiment

- = Fatality
- = Serious injury
- = Minor injury
- = Near miss
- = At risk behavior
- = Safe behavior

Which bag
would you
choose?

Bag A

- 1 ● 4
- 2 ● 5
- 3 ● 85

Bag B

- 2 ● 8
- 4 ● 10
- 6 ● 70

Bag C

- 5 ● 12
- 6 ● 15
- 9 ● 53

Bag D

- 10 ● 16
- 12 ● 18
- 14 ● 30

Heinrich's Pyramid of Accident Causation



Which would you be more concerned about:



Lagging and Leading Indicators

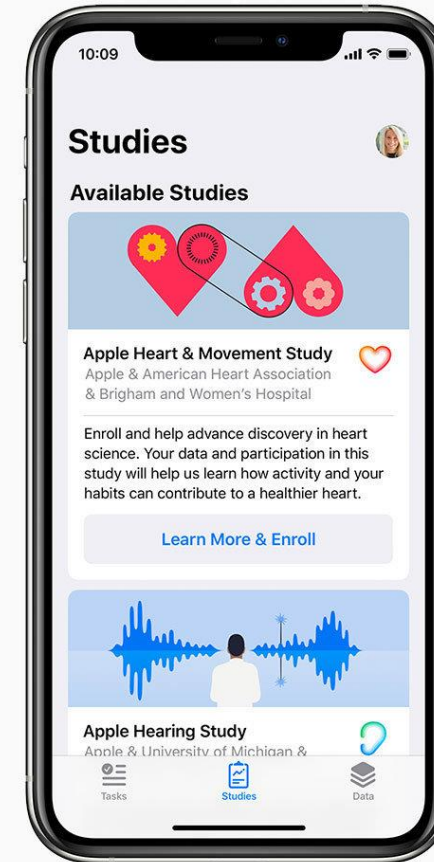
Lagging

Hindsight
Looking back on past
events
Reactive
Results-based

Leading

Foresight
Looking forward/anticipating
future events
Proactive
Process-based

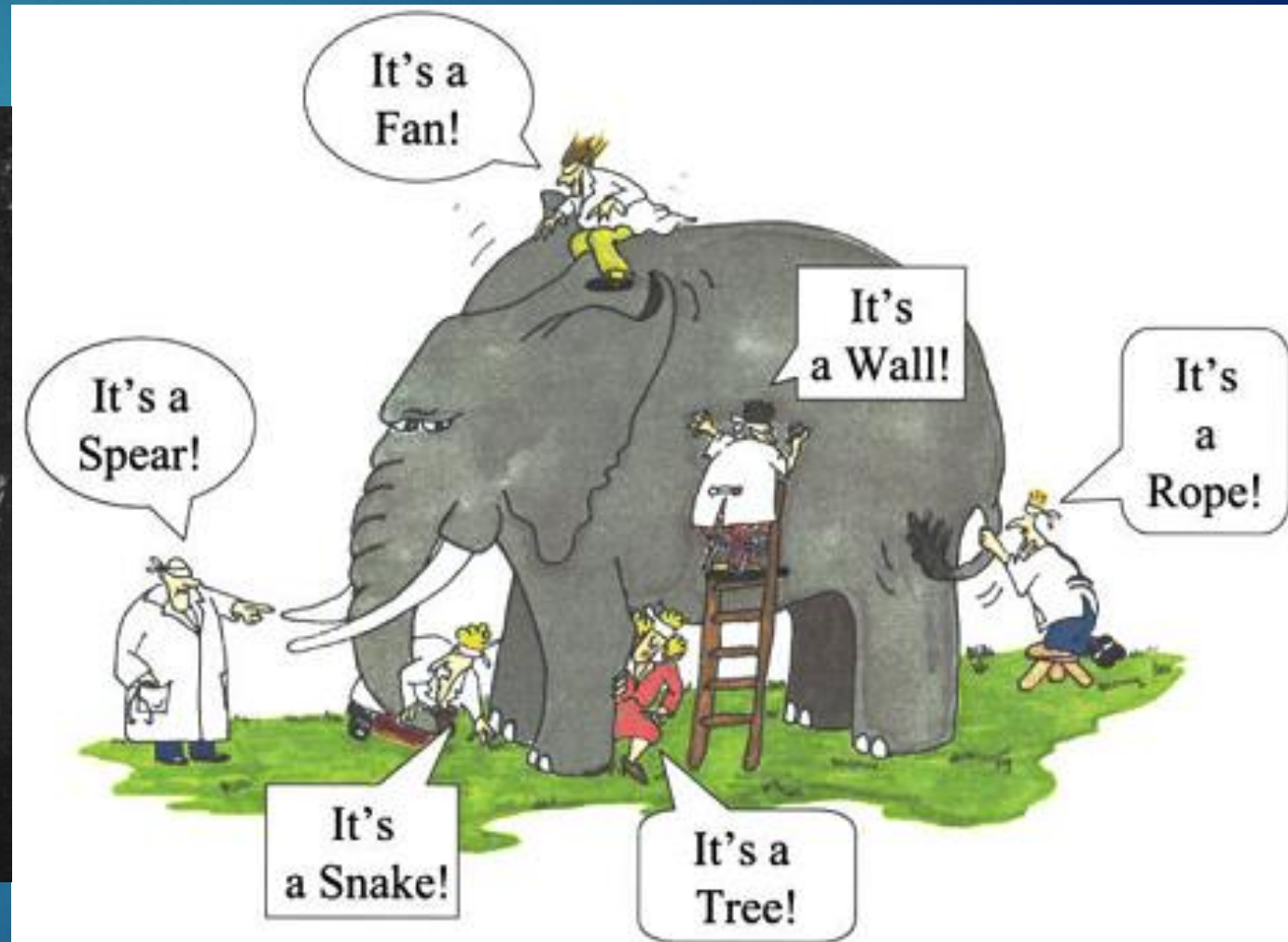
Why track leading indicators?



Why is this important?



Why is this important?





Lagging Indicators: 2 categories

Frequency

- ▶ How often do incidents occur?
- ▶ Standard IR formula:

$$IR = \frac{(\# \text{ of incidents} \times 200,000)}{\# \text{ of employee hours worked}}$$

- ▶ How does your IR compare to the industry in general?
 - ▶ 2015 Tree care industry IR=4.78

Severity

- ▶ How bad were the incidents that occurred?
- ▶ What is the cost? (physical, financial)
- ▶ Injury classification
- ▶ EMR-expected vs. actual losses
- ▶ Losses/Cost (INS) as a % of revenue



“It’s better to do the right thing the first time than have to remediate.”

- Chesley “Sully” Sullenberger





Leading Indicators

- ▶ At risk vs. safe behaviors
- ▶ Learning
- ▶ Risk assessment
- ▶ Hazard Identification
- ▶ Preventative/corrective action
- ▶ Communication of safety



How to Track Indicators



Using a dashboard to track your progress towards safety goals can keep you organized, and shows you the status of each metric at a glance.

<u>Safety Indicator Dashboard</u>				
<u>Indicator Type</u>	<u>Metric</u>	<u>Goal</u>	<u>Actual</u>	<u>Status</u>
Lagging Indicators	Incident Rate	<10	8.8	Green
	# of lost work days	<50	80	Red
	Close calls	<20	30	Red
	\$ Losses	<\$5,000	\$5,100	Yellow
	Mod Rate	<1.0	1.2	Yellow
Leading Indicators	Safety meeting attendance	98%	96%	Yellow
	# of Employees trained	50	51	Green
	# of Employees certified by ISA or TCIA	7	7	Green
	% of completed JHAs	100%	98%	Yellow
	Safety audit average score	90%	78%	Red



Leading Indicators: Techniques

Smaller Company

(1-12 employees)

- ▶ At risk and safe behaviors observed
- ▶ Communication of safety
- ▶ Hours spent on formal industry training

Larger Company

(Multiple locations/crews)

- ▶ Risk assessment with formal JHAs
- ▶ Hazard identification and correction
- ▶ # of CTSPs and QCLs on staff

Conclusion

- ▶ Tracking lagging indicators is a great way to get a baseline for how your company has performed historically in key areas of safety management.
 - ▶ Tracking these also helps you to see the progress you are making towards improving safety.
- ▶ Leading indicators help you to manage safety proactively before incidents occur.

Thank you

► Questions?

Leading and lagging indicators help you find where your organization is complacent



What's your top issue right now?