METRICS MADNESS

"What Gets Measured Gets Managed"?

Examining the Gaps Between
Managers' Beliefs About Metrics
and What Workers Actually Do

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"What Gets Measured Gets Managed"
Is it True? Of Course Not. Here's the Proof:

To Be A True Statement, The Truth Values Must Be as Follows

p	q	p → q
True	True	True
True	False	False
False	True	True
False	False	True

p	q	p → q
if X gets measured	then X gets managed	False
if X gets measured	then X *does not* get managed	True
if X *does not* get measured	then X gets managed	True
if X *does not* get measured	then X *does not* get managed	False

Oops! The Truth Values are Different

p → q	Rationale
False	Measuring X does not require X to be managed
True	Measuring X does not mean that X gets managed
True	Not measuring X does not mean that X gets managed
False	Not measuring X does not mean that X will not get managed

WGMGM is False!

For many years, I gave the following homework assignment to the graduate students in my Innovative Leadership course (TM572):

> "List 3 to 5 metrics used in your department to track performance. Identify the favorable beliefs that must exist in the mind of senior management in order to support the use of these metrics. What are the resulting unfavorable behaviors and unfavorable competencies among the workers who are held accountable to the metrics?"

Where: Belief means something accepted as true. Behavior is the conduct that results from the metric. Competency is a skill or capability that workers get good at doing.

Note that these students are full-time working professionals with an average of 10+ years of work experience. Therefore, their answers reflect real-world conditions.

A sampling of the remarkable results are shown in the following pages. I wanted to write an academic journal paper on these findings but never got around to it. I hope these pages are useful to you and that you make changes to your metrics to eliminate the gaps, respect workers, and simplify workers' accountability to metrics so they can focus on doing the right things.

Management Metric in Use	Management Belief (favorable)	Worker Behavior (unfavorable)	Worker Competency (unfavorable)
Projects completed on time	On time is good. Late is bad.	Deliver on time, quality is often bad.	Disregard for quality.
Projects competed on budget	On budget is good. Under budget is not as good. Over budget is very bad.	Padding of estimates.	Never learns how to estimate properly. Learns how to pad.
Dollars under management	Dollars under management reflect complexity of projects and capacity of project manager.	Over-estimating to simulate an inflated workload.	Worker becomes lazy.
First call resolution	Resolving client problem quickly leads to greater customer satisfaction.	Resolve ticket on first call even if there is additional work that should be done.	Providing reduced (vs. comprehensive) service.
Total tickets logged	More calls logged by tech support means tech support is working hard and doing valuable work.	Techs log calls for anything and everything to boost total tickets logged.	Logging unnecessary calls.
Percentage of tickets resolved	Techs should resolve calls without need to assign it to another department.	Avoid assigning calls to other departments, even if necessary.	Save calls when out of office, which causes delays in service.
Ticket errors	Information entered into ticket system is accurate.	Fill tickets out slowly. Avoid updating tickets for fear of introducing errors.	Work slowly. Disregard for bad or old client information.
Customer satisfaction survey results	Survey results prove that the organization is customer-focused.	Pressure clients to complete the survey and give excellent rating, or don't tell client about survey to avoid negative rating.	Game the system and introduce bias in survey results.

Management Metric in Use	Management Belief (favorable)	Worker Behavior (unfavorable)	Worker Competency (unfavorable)
Forecast accuracy	Software/human predictions are accurate.	Constantly adjust metric to make the numbers.	Focus on internal metric vs. actual customer needs.
Final test yield	Quality is good if yield is 98% or greater.	If final test results are good, then the work is good.	Complacency; no need to improve.
Purchase price variance	Favorable variances are cost reductions, unfavorable variances are cost increases.	Focus on unit price. Buy more to obtain favorable PPV.	Squeeze/threaten suppliers for lower prices. Plays suppliers against one another. Increase inventories and reduce cash flow.
Complete & on-time	On-time delivery mean customers are satisfied.	Remove certain orders from the calculation to improve the metric.	Game the metric. Keep senior management off your back.
Annual Review and Year-End Goals	Review are 100% indicative of employees' value and contribution.	Prioritize projects or tasks tied to goals over reality of those important to the company.	Self-preservation and personal goal/task attainment
Sales	Current year sales must exceed previous year sales.	Pressure customers to purchase more products. Upsell.	Indifferent to actual customer needs.
Number of visits to doctors' offices per day	Visiting more doctors will increase sales.	Visit doctors even if you know they won't buy.	Visiting doctors (quantity) vs. spending time to understand needs (quality).
Variance to budget	Budget attainment is the most more thing (more important than customer satisfaction).	Spend all your time playing budget games to avoid unfavorable variances.	Ignore opportunities to improve process.
Enrollment	Success is year-over-year increases in enrollments.	Accept wider range of applicants and create new academic programs.	Lower standards for admission and re-package existing academic programs.

Management Metric in Use	Management Belief (favorable)	Worker Behavior (unfavorable)	Worker Competency (unfavorable)
Graduation rate	High graduation rate means university is doing a good work.	Make it easier for students to pass courses.	Be less demanding of self and of students.
Retention rate	Low retention rate means university is doing a bad job.	Create new programs to improve retention rate.	Increase costs.
Cost of quality	Small number means good quality.	Hide quality problems.	Game the metric.
Labor absorption	Production rate must be maintained to maximize labor absorption despite demand.	Produce units that require more labor.	Create the need for overtime to produce what customer actually wanted. Increase inventories.
Number of escapes	Quality problems must not reach the marketplace.	100% re-inspection before shipping.	Find problems that aren't problems in the customer's eyes.
Communication	More meetings means better communication.	Become less attentive in meetings.	Ignoring management.
Outsourcing	Outsourcing lowers costs.	Outsource anything that gets you to the number faster.	Fixing the work produced by outsourcing company.
Percent discount coupons used	Promotional coupons bring in business.	Try to limit coupon use because coupons reduce profits.	Create dissatisfied customers.
Sticker sheets	Technicians upsell customers when given incentive.	Misrepresent actual repairs that are needed.	Perform unnecessary repairs.
Compliance to standard bidding procedure	Compliance yields good results.	Don't deviate from the procedure.	Don't improve the procedure.
Warranty return rate	Use to identify trends and improve overall quality.	Shift blame problem to other department avoid impact on budget and bonus.	Create inter-departmental hostility.

Management Metric in Use	Management Belief (favorable)	Worker Behavior (unfavorable)	Worker Competency (unfavorable)
Percent monthly production (actual vs. scheduled)	Greater than 95% there is no problem. Less than 95% means overtime is required.	Do minimum work necessary to meet quotas.	Gaming the system to get overtime pay.
Equipment uptime	Any equipment downtime is bad.	Keep the equipment running.	Run equipment until catastrophic failure.
Patients/hour	More patients per hours yield higher revenue and profits.	Spend less time with patients.	Reduce quality of care.
Standard monthly supply ordering forecast	Ordering same items/quantity each month stabilizes the budget.	Always order same large amounts.	Finding places to store oversupply of medical supplies.
Shop hours/month	Best way to track monthly department performance.	Do whatever supervisor tells me to do.	No concern if customers' needs are being met.
Complete (x) modules of training by (date)	By completing the training, employees will perform better.	Complete all training modules on-time.	Compliance (vs. learning).
x% workforce certification in Lean	Lean culture will emerge.	Hurry to complete the training without really understanding the material.	Maintain existing culture.
Sales	Increase customer base.	Make unreal promises.	Blame operations for not delivering.
Total lost time injuries	All injuries are preventable.	Pressure to not report injuries.	Workers hide injuries.
% network uptime	True measure of network performance.	Report less then actual number of downtime events.	Maintain current environment (vs. improve services)
Annual performance review	Maintain or increase employee performance.	Spend weeks preparing for review.	Collect any and all data to confirm great job performance.

| Management Metric in Use	Management Belief (favorable)	Worker Behavior (unfavorable)	Worker Competency (unfavorable)
Weekly status reports	Keep track of what employees are working on.	Scramble to assemble weekly status report.	Reports focused on quantity of input vs. quality.
% engineering changes completed	High % indicates favorable performance.	Focus on completing the ECs vs. assuring change made properly.	Ignore data trends or larger configuration system problems.
% reports submitted on-time	Compliance to due date is a reflection of report quality.	Focus on schedule instead of quality.	Do the minimum because quality is rarely questioned.
Dollars spent	Burn rate reflects project status (head or behind).	Spend money if behind, even if not necessary. Stop spending if ahead, even if necessary.	Ignore financial tracking due to lack of realism.
Red-yellow-green tracking system	Best method for reporting project status to senior leaders.	Spend a lot of time determining red-yellow-green status.	Fudge the numbers to avoid red status.
Average time to resolve Help desk tickets	Response time misses motivate improved performance.	Take only the easy tickets.	Focus on numbers vs. client satisfaction.
Number of code changes per month	Number of changes represents employee value-added.	Grab easy changes so you can do more of them.	Redefining changes so single change becomes multiple changes.
On time tasks	Employees will set realistic goals.	Set easily attainable goals.	Commit to tasks guaranteed to be completed on time.
Customer satisfaction	We must satisfy our customers.	Steer customers to accept what we deliver.	Ability to manipulate customers.
Forecast accuracy	Planners can accurately predict the future.	Focus on historical data to predict current needs.	Ignore future events that may impact demand.
% milestone attainment	Accurately represents contractor work schedule status.	Use other data /information to make accurate decisions.	Non-value-added recording and reporting.

Management Metric in Use	Management Belief (favorable)	Worker Behavior (unfavorable)	Worker Competency (unfavorable)
Perform average of six corrections per hour	All errors are the same.	Focus on correcting easiest errors.	Avoid difficult errors.
Number of client appreciation e-mails	The more e-mails a software engineer receives, the better the work.	Ask for appreciation e-mails from clients (vs. doing better work).	Competition and rivalry among team members.
Number of lines of code per day	Indicator of the skill levels of software developers (more = better)	Focus on quantity of code vs. quality of code.	Write more lines of code than is necessary.
Sales per employee	Accurately represents productivity and effective use of resources.	Increase sales by any means.	Selling things to customers that they do not need.
Meeting attendance	Attendance reflects engagement and participation.	Show up; check-the-box.	Attending.

Should Managers Blame Workers?
No.
Then What Should Managers Do?

Thank you to my former students
who provided the information on pages 4-9
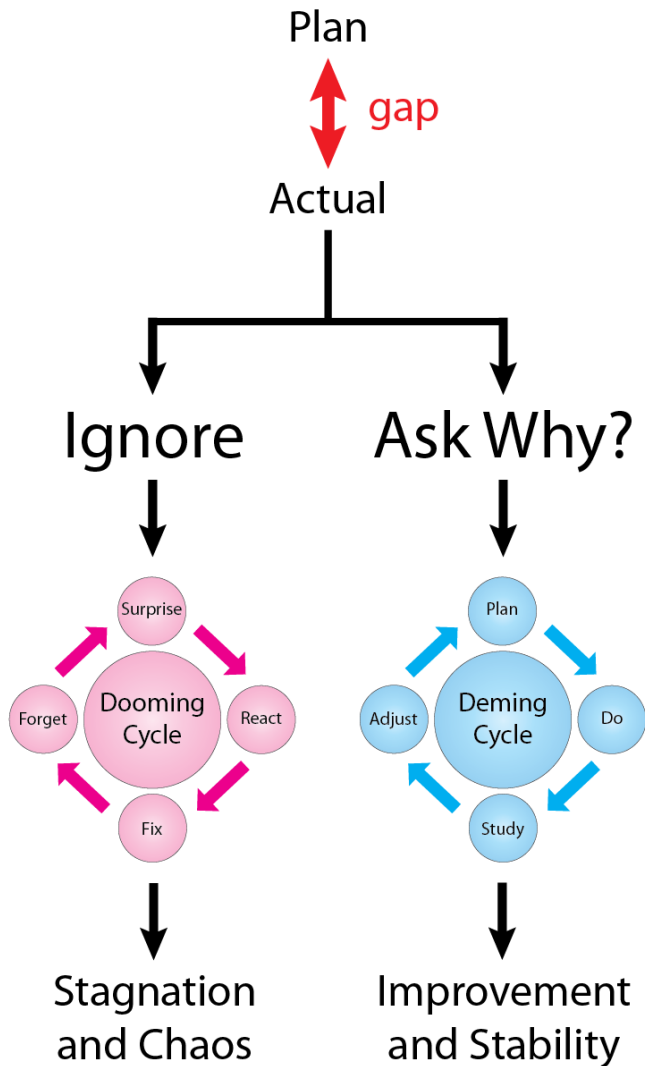
The Metric is the "Plan" While the "Actual" is What Workers Do

Managers Own the Plan and Are Doomed if They Ignore the Gap. Instead, Ask "Why?"

Work with Employees to Create Better Metrics and Methods to Reduce or Eliminate the Gap Between Plan and Actual

ANALYSIS AND IMPROVEMENT OPPORTUNITY

The gap between what managers believe about the metric ("plan") and the resulting worker behaviors and competencies ("actual") is source of variation that results in unintended consequences - confusion, compliance, shortcuts, obfuscation, etc. Pages 4-9 show that leaders must be attentive to cause-and-effect relationships for metrics. Frequently, neither the metric nor workers' competencies result in the elimination of waste, unevenness, and unreasonableness, and it does not improve the work or customer satisfaction.

Senior managers must therefore be very discriminating in the use of performance metrics and understand the effect that performance metrics have on employees (and others such as suppliers). Too often they assume metrics that have been in use for a long time, or metrics in software systems, have been vetted long ago and are good and right to use. That is a bad assumption, and it illustrates an unwillingness to question things and ask "Why?" Leaders must not blindly accept metrics that have a big impact on the people who do the work every day.

Further, the gaps demonstrate management's lack of awareness of what is actually going on and disinterest in both continuous improvement and respect for people. This is management's problem to correct. Managers must never blame the workers.