Work experience provides interesting insights. Here's theory on metrics.

### **(0) The Original Problem**

All children have faced the following injustice: there’s a crime and despite being innocent, the truthful explanation does not satisfy the authority figure. Perhaps a poor job was done in retelling the account or perhaps another child or sibling is simply more convincing. It is incredibly frustrating to not be believed -- when telling the truth is not sufficient.

The foundation of this problem is the discrepancy between the objective and the subjective. When this problem occurs in the workplace it’s the perfect setting for the Metrics solution.

There is a difference between

(1) How much work you’ve done

(2) How much work people think you’ve done.

When there is no third party to arbitrate, it is one interpretation against another’s; he said she said. In such a system it is commonplace for the *poor* worker who is a compelling advocate for themself to be valued *higher* than the competent worker who is hands-off when detailing their accomplishments.

This system is non-optimal because the result is highly influenced by argument instead of empirical evidence.

Metrics is the commonplace solution for this problem.

### **(1) The Metrics Solution**

The traditional approach to metrics requires three steps

1. Data
2. Projections
3. Value Assignment (VA)

Every job has a job description. A simple example of data is tracking each item in the job description.

We track these endpoints over time and over individuals and in aggregate this is our data.

For example in a restaurant we might track three things: orders taken, orders served, and tables cleaned. Based on the numbers, the boss might assign values to each of these actions.

* Take order - 5 points
* Serve order - 20 points
* Clean table - 3 points

With this value-assignment the role expectation might be 1000 points a quarter. And promotion might historically be at 10000 points in total.

With this value assignment the judge for performance is now an unbiased algorithm. The worker’s inputs are converted to the pseudo-value and this pseudo-value is used to determine whether expectations are being met or whether a promotion is in the cards.

This system has many benefits.

* Management is forced to conceptualize the role and expected performance.
* The ideal metrics use-case rewards impact and aligns individuals with the team goal.
* If the value-assignment is public workers can explicitly calculate their performance/value.
* The pseudo-value is objective, reproducible, and comparable.

### **(2) The Metrics Problem**

There are two primary problems which are unsolvable in reality.

1. There are infinite data points
2. Value-assignment is infinitely complex

It is straightforward to create a naive implementation of Metrics. While having the above benefits, Metrics changes behavior and a poorly designed Metric system can quickly lead to disastrous results.

Here are common results of the two problems in a naive implementation.

1. Data does not track customer satisfaction

It is difficult to rate customer satisfaction so it often is not a trackable data point. Workers are incentivized to handle things quickly but are not rewarded for treating customer’s well.

TLDR; Workers will not help customers.

1. Data does not track difficulty

The data point was not granular enough. Workers are incentivized to handle easier orders.

TLDR; Workers will avoid hard orders.

1. Metrics did not track uncommon things

It is impossible to list every beneficial action. Workers will stop doing beneficial actions they previously were doing.

TLDR; Workers will avoid doing untracked tasks and perform the minimum.

*"It is common to confuse what is important with what is easy to measure."*

### **(3) The Metrics Reality**

Metrics are an [abstraction](http://todo), a proxy, an approximation. [Abstractions](http://todo) necessitate inaccuracy however it’s all dependent on whether the utility is determined to outweigh the inaccuracy in value.

**To use Metrics** is to determine that the accuracy for the standard deviation is worthwhile. It’s unfortunate for the tail ends of the bell-curve, however the tradeoff is acceptable.

It is not ideal, but it is optimal and there are no better alternative systems.

**To avoid Metrics** is to determine the tradeoff is unacceptable either in utility or risk. Metrics requires design and too often is naively implemented with rose-coloured glasses. In reality it is extremely difficult and I posit often it causes more harm than good.

While (0), a system without metrics, is susceptible to bias and emotional influence, there is a positive correlation between what is convincing and what is correct. A case can be made that often convincing decisions are *good enough*TM.

Admittedly, this does not scale well however I believe this option is underrated and a workplace devoid of Metrics should not be overlooked.

### **(4) The Catch-22 Of Metrics**

Metrics are impossible in reality because there are infinite data points and value-assignment is impossible however this is a Theory post so let’s continue as if these two problems were solved.

1. All the data points were captured
2. The value-assignment was perfectly weighted

None of the workers have any complaints. Every possible action they can do has a weight and it’s completely accurate to everyone’s sensibilities and the data.

Despite this, there is a remaining C-22 Metrics problem.

* Trust requires knowledge of the system
* Knowledge of the system changes behavior

To trust the data and values the worker must validate. How can the worker trust the values without knowledge of the values? Further, there is a power imbalance because the creator of the system is biased and not incentivized to advocate for the worker.

The worker will inspect the values and in doing so will optimize, performing differently with new knowledge. Thus the value-assignment will become outdated. The data before metrics will be drastically different than the value after metrics; metrics is incentivization. The value-assignment needs to be recalculated to properly incentivize things given the new behavior.

This cycle will continue finitely because it is a dynamic problem. Reality is complex, there is no homeostasis, the value-assignment will always lag behind the data.

TLDR; Metrics has an inherent observability problem.

### **(5) The Theoretical Ideal**

In reality Metrics will never move pass (3) The Metrics Problem because

1. Infinite data points
2. Infinite value-assignment complexity

However in theory if we found ourselves solving this and tackling the C-22 observability problem the theoretical solution would be a system that is double-blind.

The ideal system is one where the worker and management trust a third party. The algorithm would be the same -- perfect data points, perfect value-assignment, dynamically updating -- however neither of these would be validated or known to the worker or the manager.

When a measure becomes a target, it ceases to be a good measure.

<https://www.youtube.com/watch?v=Ly2XHOKtH84>

Made In Heights - Pirouette