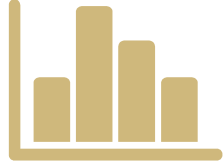




The Data Driven Manager

The Role of Metrics in Management

Performance Measures



- Performance Measures are **metrics** which indicate the overall health of the business or organization
- Often referred to as **KPIs** (**K**ey **P**erformance **I**ndicators)

**KPIs are indicators
that tell you if your
Strategic and
Business Plans are
working!**



KPIs



- Start at the highest level of the organization
- Established through analysis of the where the company wants to go (vision, mission, value proposition)
- Cascaded throughout the organization to all levels of management

KPI Examples



Quality

- Customer Satisfaction
- Process Capability
- Defective Rates
- Product and Service Characteristics
- Performance

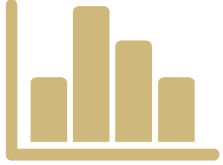
KPI Examples



Productivity

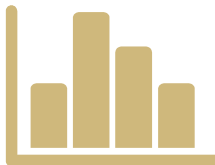
- Throughput
- Yield
- Changeover / Setup Time
- Availability
- Efficiency
- Reliability

KPI Examples



Cost

- Materials
- Operation
- Support
- Delivery
- Labor
- Business Financial Measures
- Inventory
- Work-in-Process
- Overtime



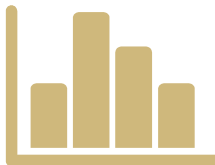
KPI Examples

Delivery

- Cycle Time
- Lead Time
- Delivery Performance

Innovation

- New Product Ideas
- New Product Introductions
- Process Improvements



KPI Examples

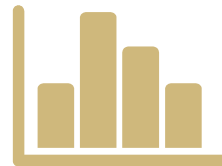
Safety

- Number of Incidents
- Incident Rate
- Lost Work Days
- Restricted Duty

Employee

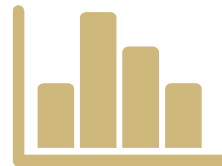
- Turnover
- Absenteeism
- Employee Satisfaction
- Suggestions Implemented

Where To Start



- **Create** meaningful metrics from your vision, mission and value proposition - don't just copy what another company has done
- **Track** these key metrics through time
- **Translate** these metrics down to the level of individual contributor

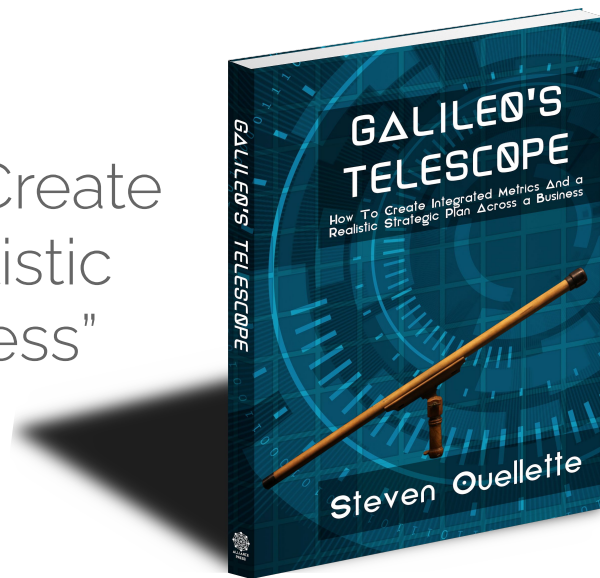
Want To Learn More?



Check out the book:

- “Galileo's Telescope: How to Create Integrated Metrics And a Realistic Strategic Plan Across a Business”

<https://amzn.to/3S5KEtE>



Beyond Top Level Metrics

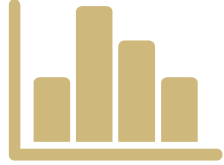
Today's Managers Need to
Understand Data and Statistics

Why Statistics?



- In today's business climate, managers are expected to make decisions under conditions of **uncertainty**
- To do this **effectively**, you need to have a solid understanding of data and statistical methods

Make Better Decisions

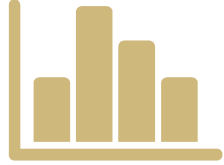


Data allows us to:

- Identify possible trends and relationships
- Assess opportunities and threats
- Make decisions to help the business

However, it's only useful when **interpreted** correctly!

Make Better Decisions



Statistical methods:

- Used to collect, analyze, and **interpret** data under conditions of uncertainty
- Help us draw conclusions from data that would otherwise be **meaningless**

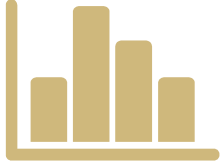
Interpret Analyses



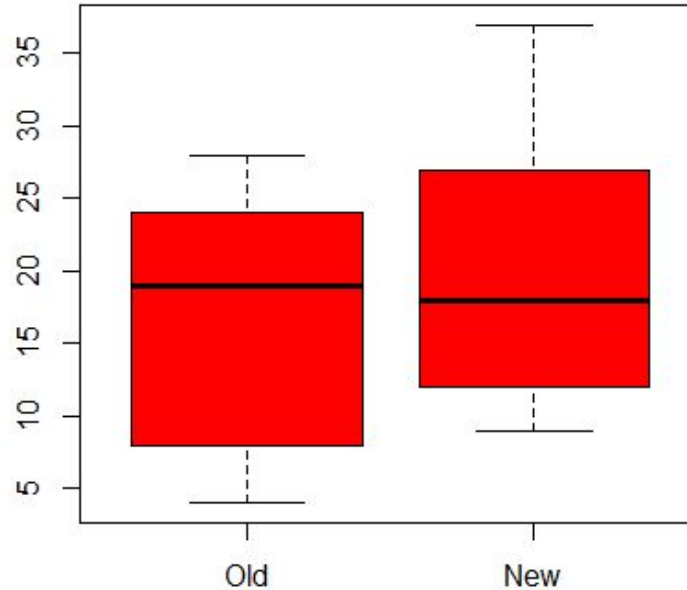
Understanding the basics of data and statistics allows a manager to:

- Assess conclusions and recommendations
- Interpret statistical results
- Ask the right questions

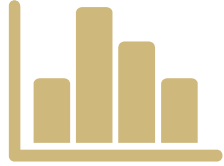
Interpret Analyses



Old vs New



Interpret Analyses



What if we added this table?

	dv.name	n	mean	sd	min	max	range
1	Old	10	17.3	8.75658	4	28	24
2	New	10	20.9	10.08244	9	37	28

Interpret Analyses

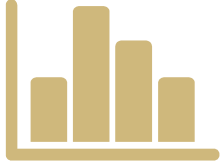


Did you know that these two groups are actually **different** with respect to mean level of performance for the variable noise?

Paired Test for μ_1 is not equal to μ_2 :

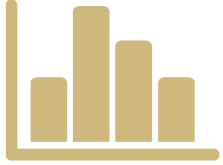
$t = -2.3005$ $df = 17.6537$ **$p = 0.0338$ ***

Set Direction



- Determine the right data to collect
- Coach your team
- Plan an experiment to test your hypothesis

Reduce Risk



- Identify potential risks
- Develop strategies to reduce risk
- Better decisions = greater success

Ready to Get Started?

