Evidence-Based HR Management

Earning A Seat In The C-Suite

2018 NHRMA Annual Conference

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In God we trust… everyone else must present evidence

Evidence-Based Management

- Origin in evidence-based medicine
- AOM & SIOP focus: SHRM?
- Workforce management needs a major transformation
  - Decisions based on credible evidence
  - Decisions made using scientific method
  - Decisions that support the business

Key To The "C-Suite"?

- Executive management wants more than "I think" as support for decisions
- Finance & Marketing have evolved
  - Use of data analytics
  - Adopting scientific method
  - Supported strategy recommendations with tangible evidence, increasing credibility
- HR has lagged but catching up

A Hypothesis

"If you pay peanuts…

you get monkeys"

Gunther Klaus

What Are The Underlying Assumptions?

- Pay is important to people
- Paying more is preferable to paying less
- Top contributors are attracted to high pay
- Top contributors are repelled by low pay
- Top contributors have a choice of employers

Question: That may be what you believe…
but how do you support your assumptions?

The Practitioner's World

What "evidence" is used in decisions?

Intuition

It worked at my last job

Pop literature

We have always done this

Guru counsel

Research

"Best" practice

What Impedes Use Of Evidence In Decision-making?

Don't know it exists

Don't understand it

Don't see its relevance to own issues

Don't know how to apply it

Let's Test Our Knowledge: True or False?

- "Increasing employee satisfaction will increase productivity"
- "Conscientiousness is a better predictor of performance than intelligence"
- "There will be no difference between rating distributions whether or not the manager must share the rating with the employee being rated"
- "Encouraging participation in decision –making impacts performance more than setting performance goals"
- CLUE: 3 are False; 1 may be True

Two Approaches To Finding & Applying Evidence

- Deductive (theory > findings)
  - Identify testable theory in the form of a hypothesis (more pay > less turnover)
  - Identify the assumptions made
  - Test hypothesis
  - Assess, refine/confirm/reject theory
- Inductive (evidence > findings)
  - Accumulate evidence
  - Analyze patterns
  - Develop theory

Deductive Is Hard Work

- **Formulating feasible hypotheses**
  - **"Above market pay gets/keeps top talent"**
- **Defining all the underlying assumptions**
  - **"People value pay"**
  - **"They believe their pay is above market"**
  - **Other…**
- **Constructing a test of the assumptions**
  - ***Running tests on impact of pay is risky***

And Inductive Is *"In The News"*

- Literature is full of "big data/analytics"
- All the stories are about successes: surprise? How many people write about their failures?
- Plus, trolling massive data sources is easy
- And, the chaotic environment makes theory formulation difficult
- And, above all, analytics is the "new best thing"

But Danger Lurks

- *If sufficiently tortured data will confess to anything*
- **We are subject to cognitive bias**
  - **We more readily accept information that agrees with what we believe/ want to be so**
  - **We see things in clouds when there are only clouds/random patterns**
  - **We develop conclusions from inadequate samples**
  - **We often assume correlation = causation**

Common *Serious* Mistakes

- Using measures just because they are quantitative
- Assuming something that can be counted is important, whether it is or not
- Shying away from qualitative measures requiring subjective judgments
- Q: Aren't many of the most critical decisions made based on judgments?

Single Focus On Data Analytics Can Drive Out "Soft Stuff"

- **Book/movie *"Moneyball"* was example of the value of using metrics to make better decisions (induction)**
- **But movie *"Trouble With The Curve"* illustrated that experience and knowledge (deduction) can be a valuable partner with data and analytics**

The "Soft Stuff" Counts

- **Ryan Leaf was picked ahead of Peyton Manning in the NFL draft *(Ryan who?)***
- **Leaf failed not on athletic ability, that can be measured objectively**
- **Leaf failed on personality, that can only be measured subjectively**

But Relying *Only* On Soft Stuff May Not Be Wise

- The *most widely used* selection tool is the one-to-one unstructured interview
- The *least valid* predictor is the one-to-one unstructured interview
- Using some hard data may prompt use of more valid process

Data Analytics

- Determining what you need
  - Historical data
  - Trend data
  - Predictive data
  - Prescriptive data
- Knowing what type of relationship you need
  - Correlation
  - Causation

Evaluating Data

- From relevant contexts?
- Source of data valid?
- Age of data impact usefulness?
- Accuracy of data questionable?
- Quantitative or qualitative data?
- Evaluator have the qualifications and the neutrality to analyze impartially?

But What If There Is No Data?

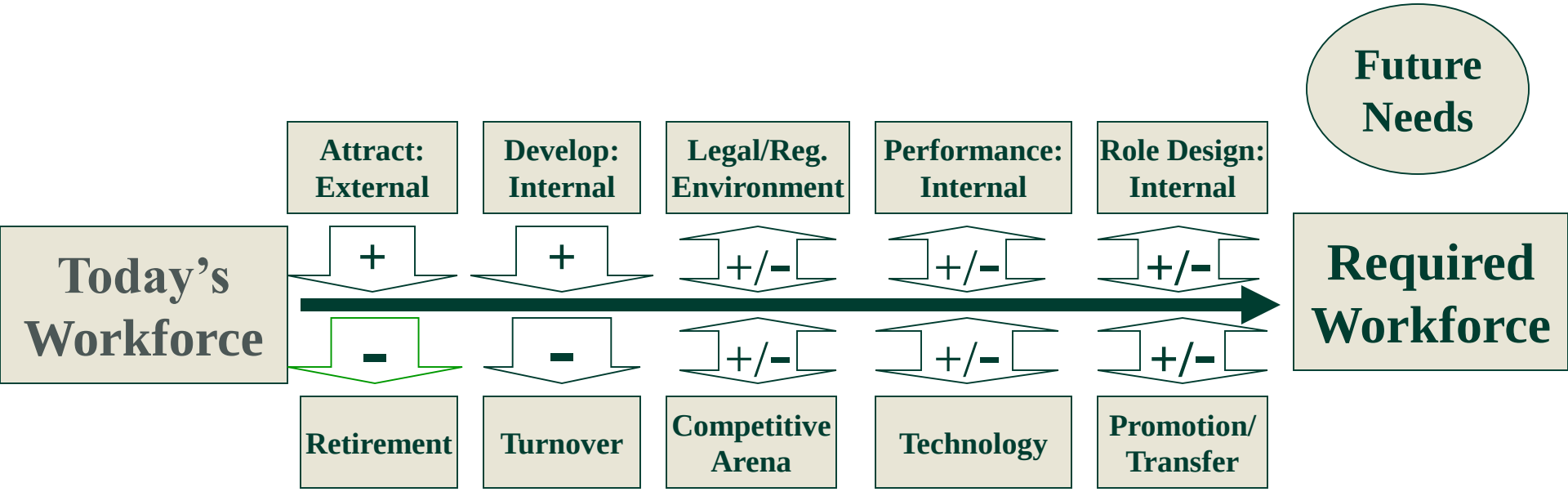
- Data can be found if an organization wants evidence about
  - What has happened
  - What is happening
- Innovation/invention may involve conditions that have never been
- So if the future will not be like the past/present is there useful data?

The Tools

Analyzing Data

- Determine what type of data you need
  - Historical data
  - Trend data
  - Predictive data
  - Prescriptive data
- Know what type of relationship you need
  - Correlation
  - Causation

Example Of Predictive Model: Assessing Workforce Viability Against Future Requirements



Identify sources of supply and losses, project net gains or losses and then determine whether human capital will be adequate

Predictive & Prescriptive Model: Flow Analysis: Control Room Operators

	Entry Level	Journey Level	Senior/Lead
Current Staff	4	6	10
Current Demand	2	12	6
Current Gaps	-2	6	-4
Demand: 1 year out	3 (+1)	12 (-)	6 (-)
Losses projected: next year	1	-1	4
Gaps: 1 year out	0	7	0
Demand: 3 years out	3 (-)	14 (+2)	8 (+2)
Losses projected: next 3 years	4	5	10
Gaps: 3 years out	4	14	12

Progression through levels must be projected as well to determine staffing needs

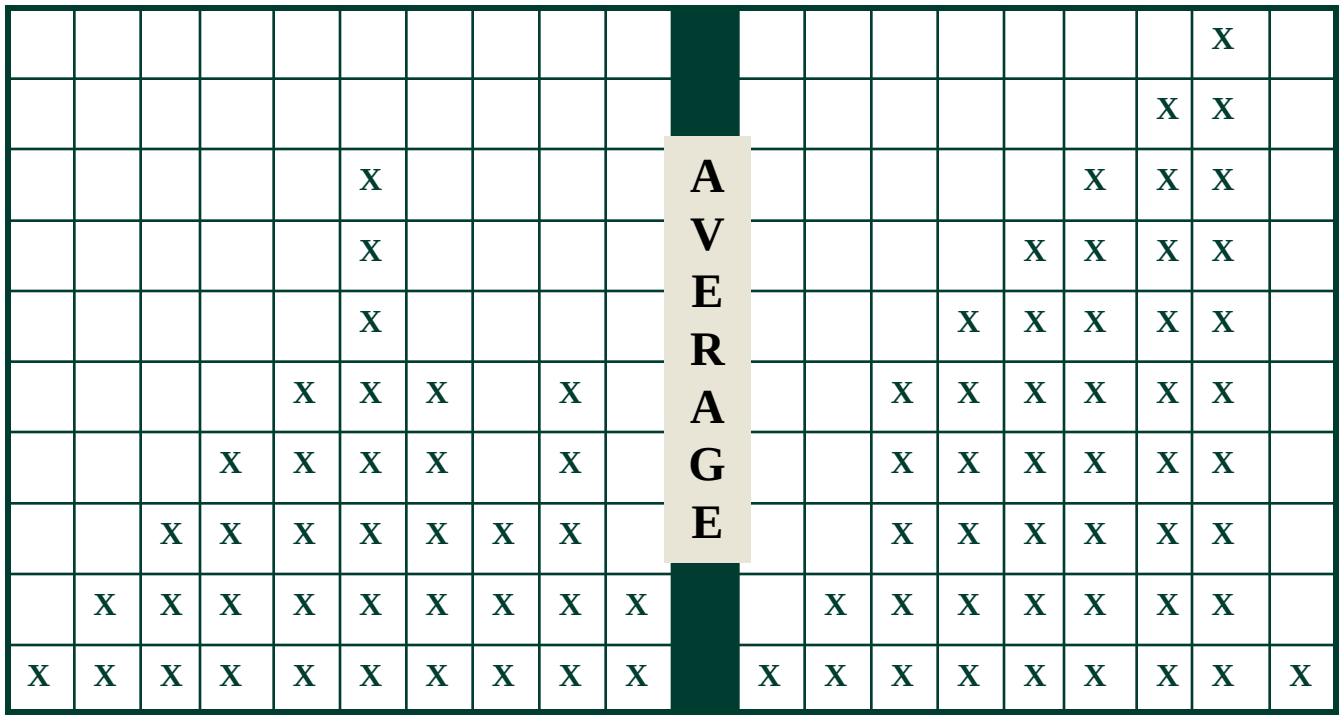
Making Sense Of Data

- When data points are numerous they need to be clustered into like "chunks"
- Often using an average (or median) disguises the true patterns
- Using histograms (frequency distributions) can enlighten the analyst

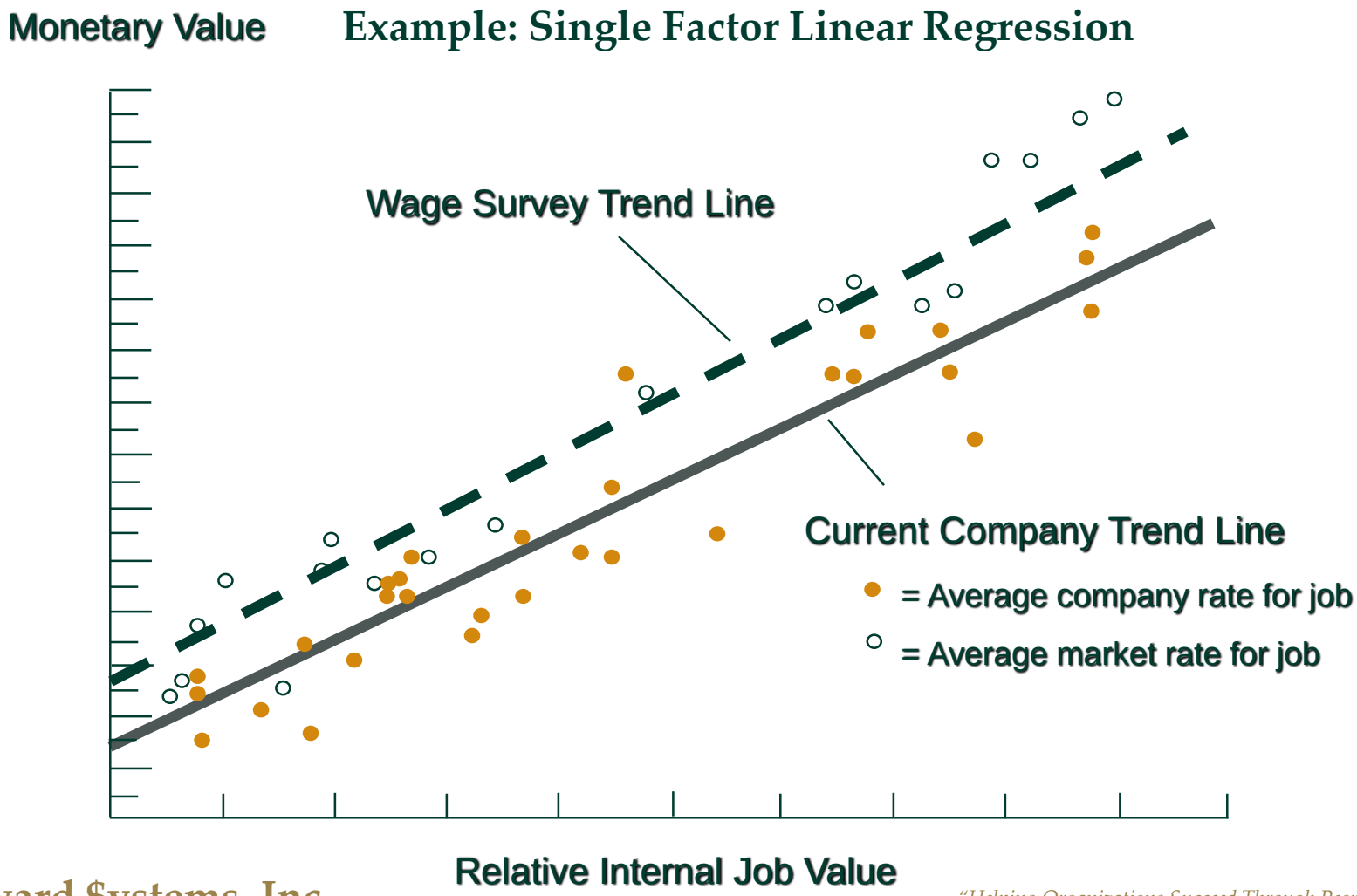
"Getting into the weeds" can be key to understanding what the data says

Employee Attitude Survey

- **Common error: report "averages" rather than frequency distributions: what does the average tell you in data below?**



Regression Analysis: Exploring Relationships



Multiple Factor Regression: Powerful Tool For HR

- Statistically testing factors impacting selection of new hires
- Identifying potential departures
- Explaining pay rates… what factors are influencing pay (e.g., performance ratings, longevity in job, grade)
- Widely used in testing statistically for discrimination

An Example Of An Application

- Analysis done using multiple regression, finding what factors impact pay rates. The following are found to have statistically significant positive correlations with pay:
  - Education level
  - Years of experience
  - Job grade
  - Gender
  - Ethnicity
- What would your reaction be? What additional information would you want before you called your in-house/out-house counsel?

Reverse Regression

- **Harris Trust case on gender-based pay discrimination**
  - **Organization found pay for women averaged about the same as for men: therefore, conclusion was that there was no problem**
  - **Statistician showed that women were more qualified as a group, therefore should have been paid more than men on average**
  - **Lesson: look at everything; from every angle… and then evaluate patterns**

Correlation & Causation

- If there is a high *correlation* between A and B it does not establish *causation*
  - A and B may both be caused by C
  - The correlation may be accidental
  - Causation unclear… taller people tend to weigh more, but does one cause the other (or do they co-vary)?
  - B may cause A or A cause B
- Causal path analysis enables relationships to be identified and implications understood

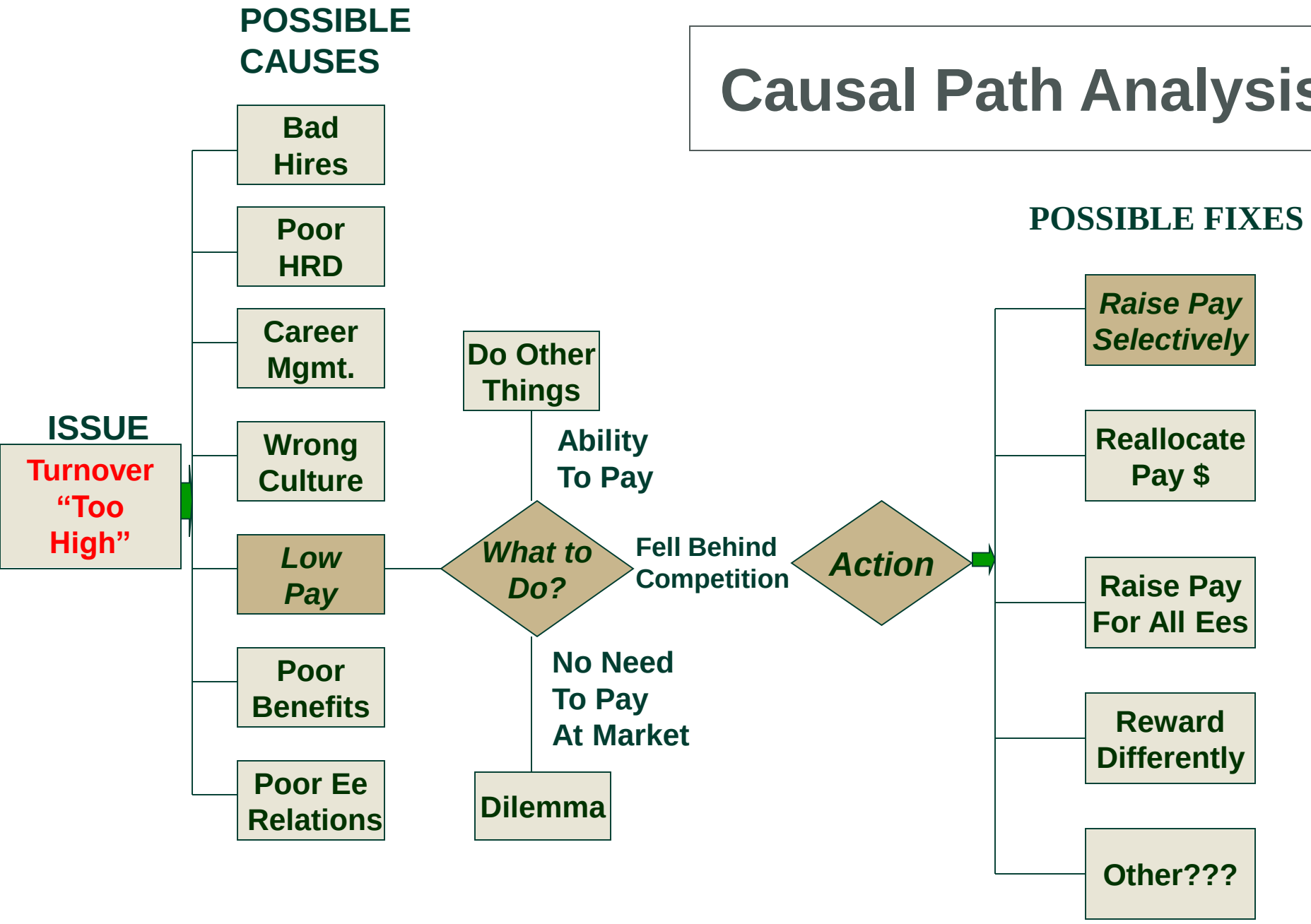
What Causes What?

- **Taco Bell found:**
  - **Stores in top quartile in customer satisfaction had better financial performance**
  - **Stores in top quartile in employee turnover *(it was low)* had double the sales and 55% higher profits than stores in lowest quartile**
- **What can be concluded from this?**
- **What was the direction of causation?**

Causation: The Direction Counts

- Does satisfaction impact performance?
- Does performance impact satisfaction?
- What do you think research shows?

Causal Path Analysis



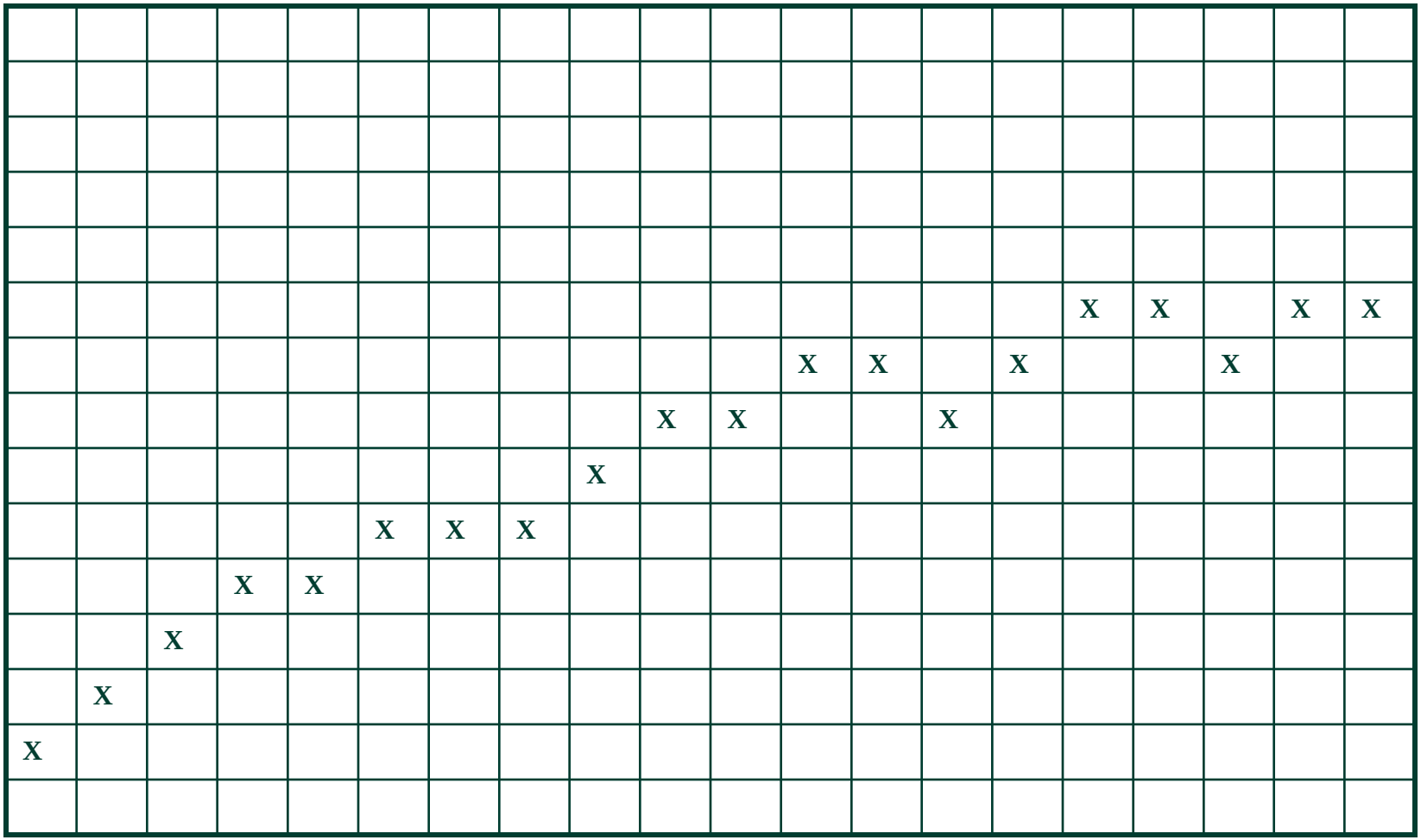
Trend Analysis

- Be aware of trends in data over time
  - Cyclicality/seasonality
  - Upward or downward pattern
  - Extreme values: timing measurements of improvement (regression to mean)
- Particularly important in HRM for:
  - Scenario planning; forecasting future
  - Understanding how significant changes are
  - Incentive plan target setting

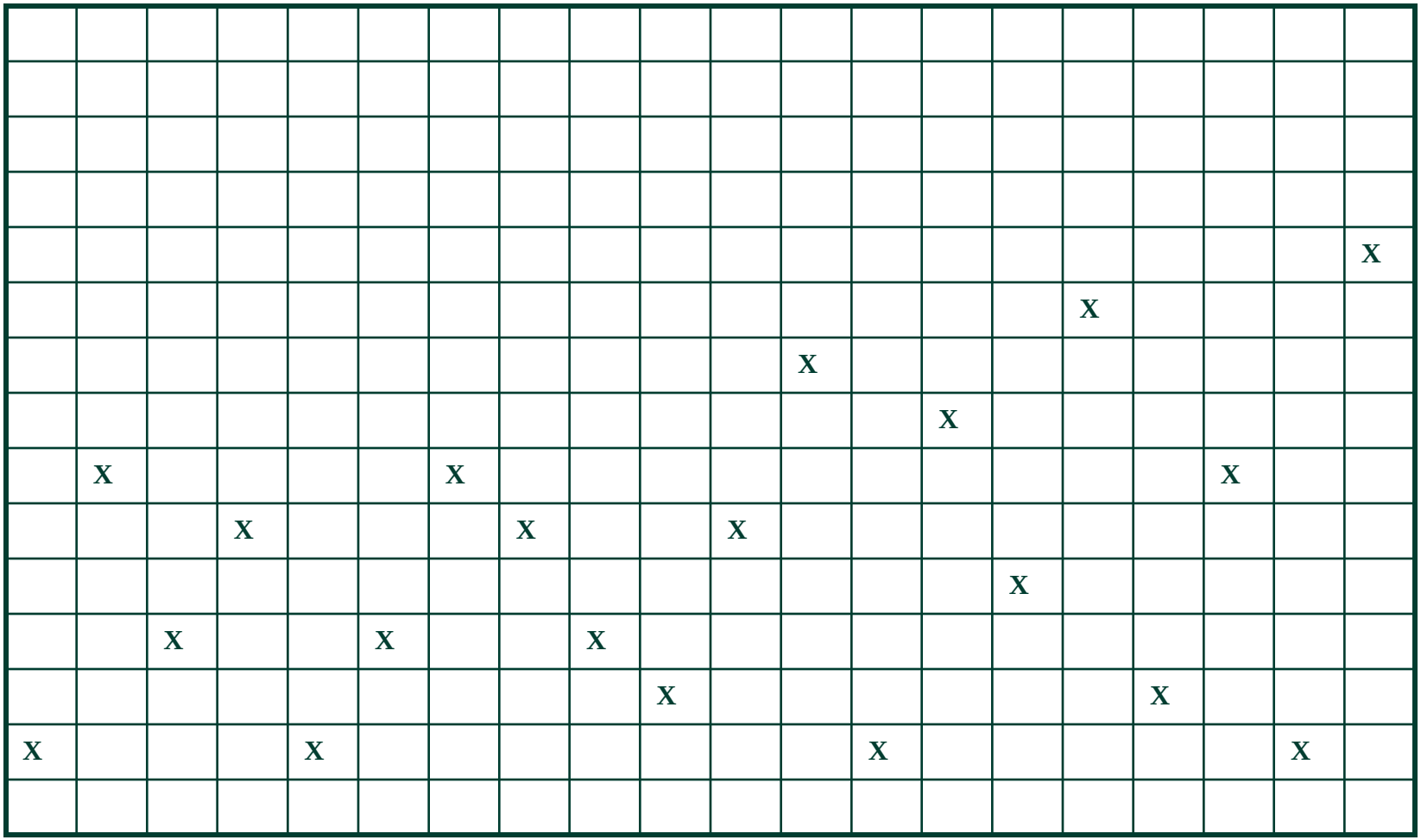
Example: Setting Targets For An Incentive Plan

- Need to set "baseline" to determine the size of the incentive fund, based on the performance level
- Need to determine if implementing the plan made a positive difference

Last 20 Periods: Where To Set Baseline?



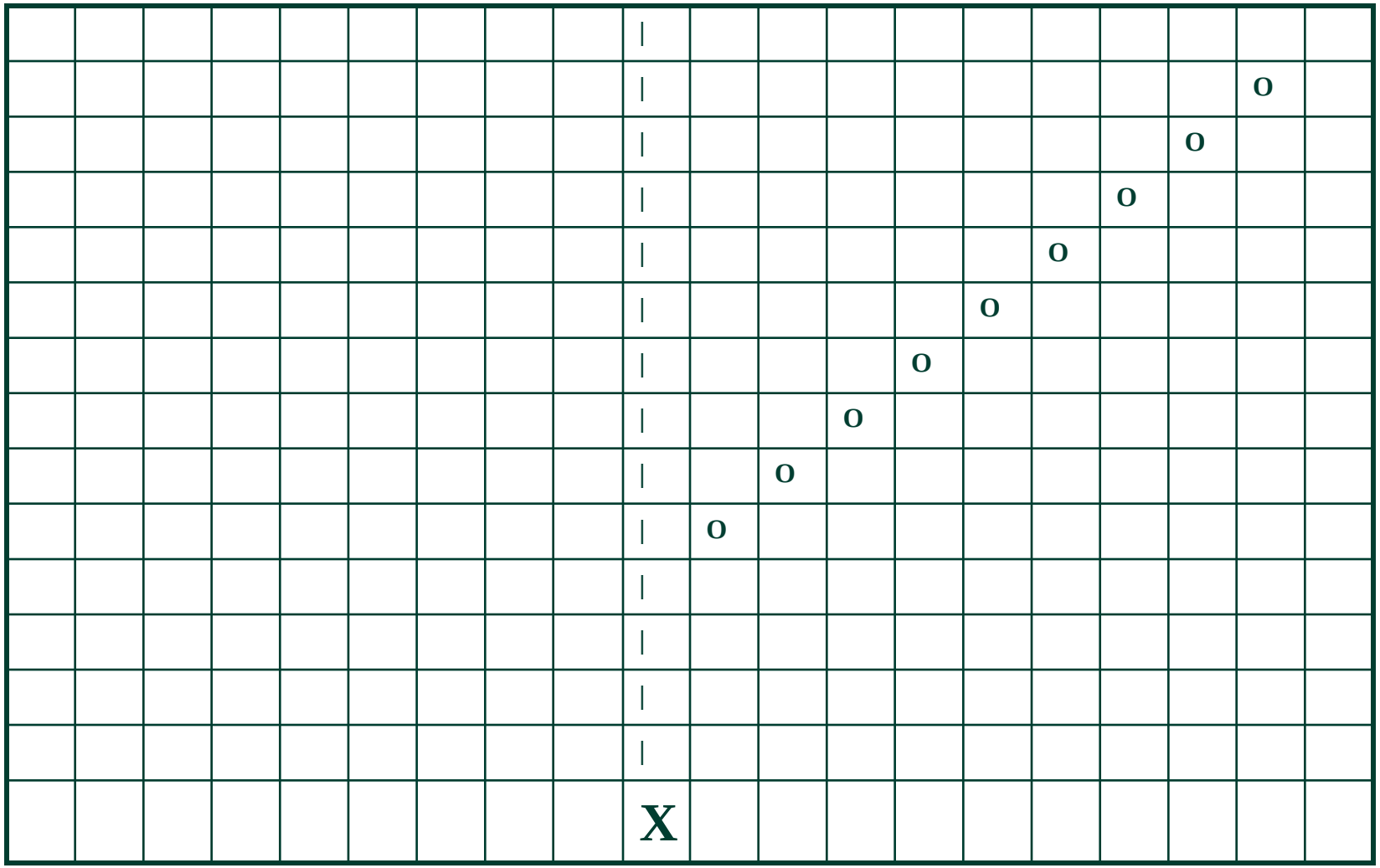
Last 20 Periods: Where To Set Baseline?



Evaluating Interventions

- We attempt to intervene
  - To fix problems
  - To improve performance
  - To change what has been to what we want
- Evaluating an interventions requires
  - Understanding what has been
  - Determining if the desired change has occured

Did "X" Make A Difference?



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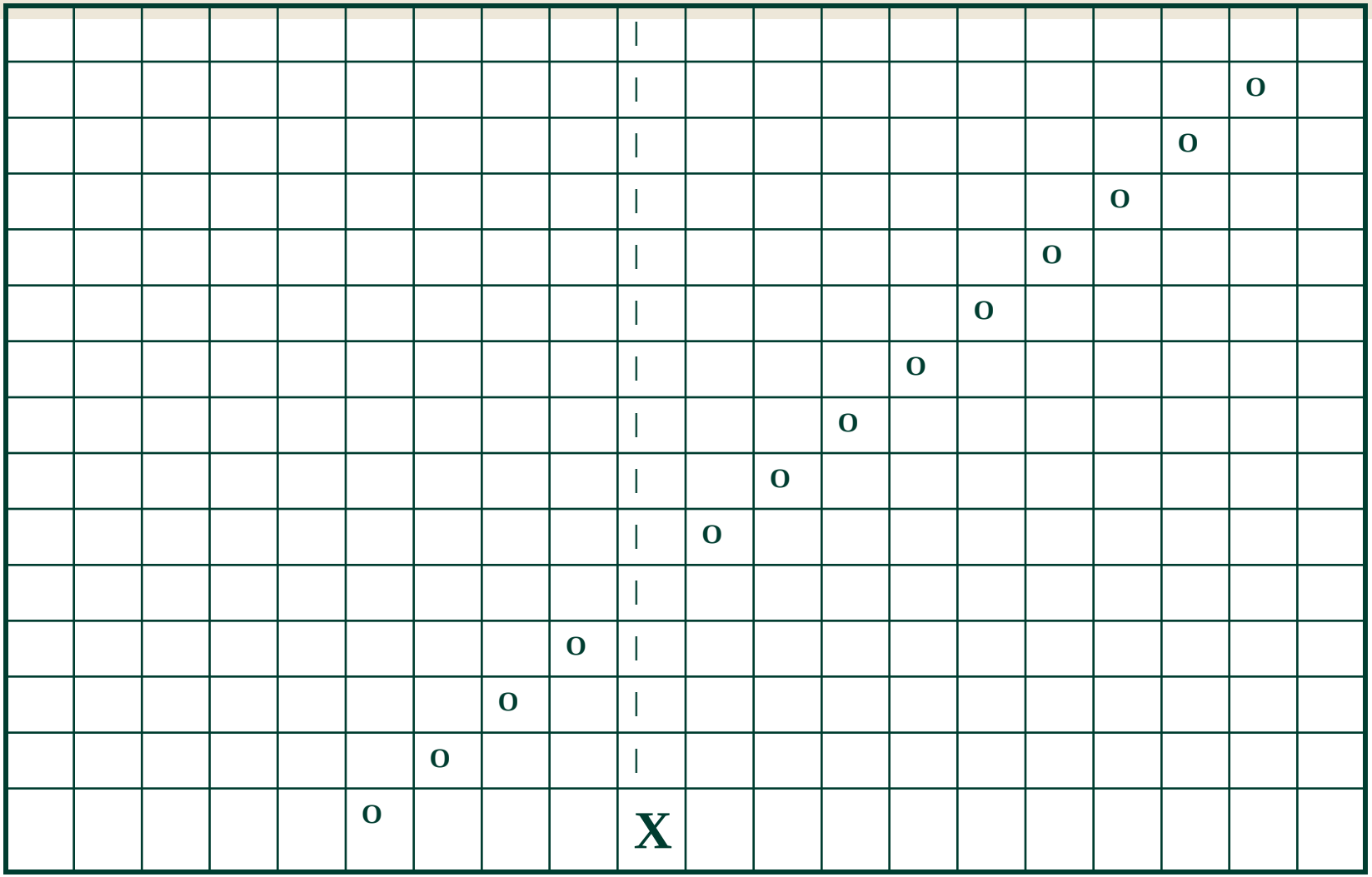

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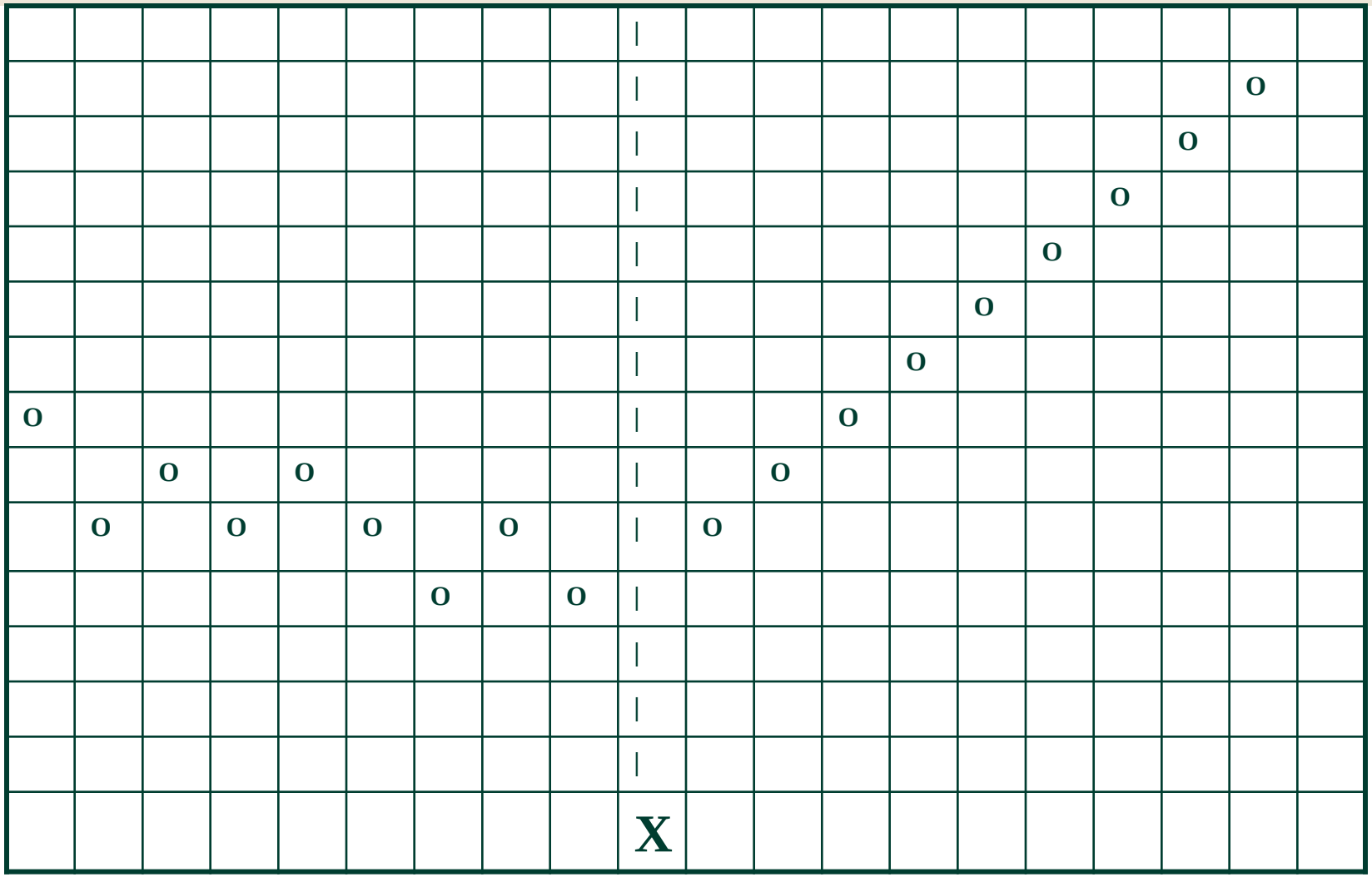

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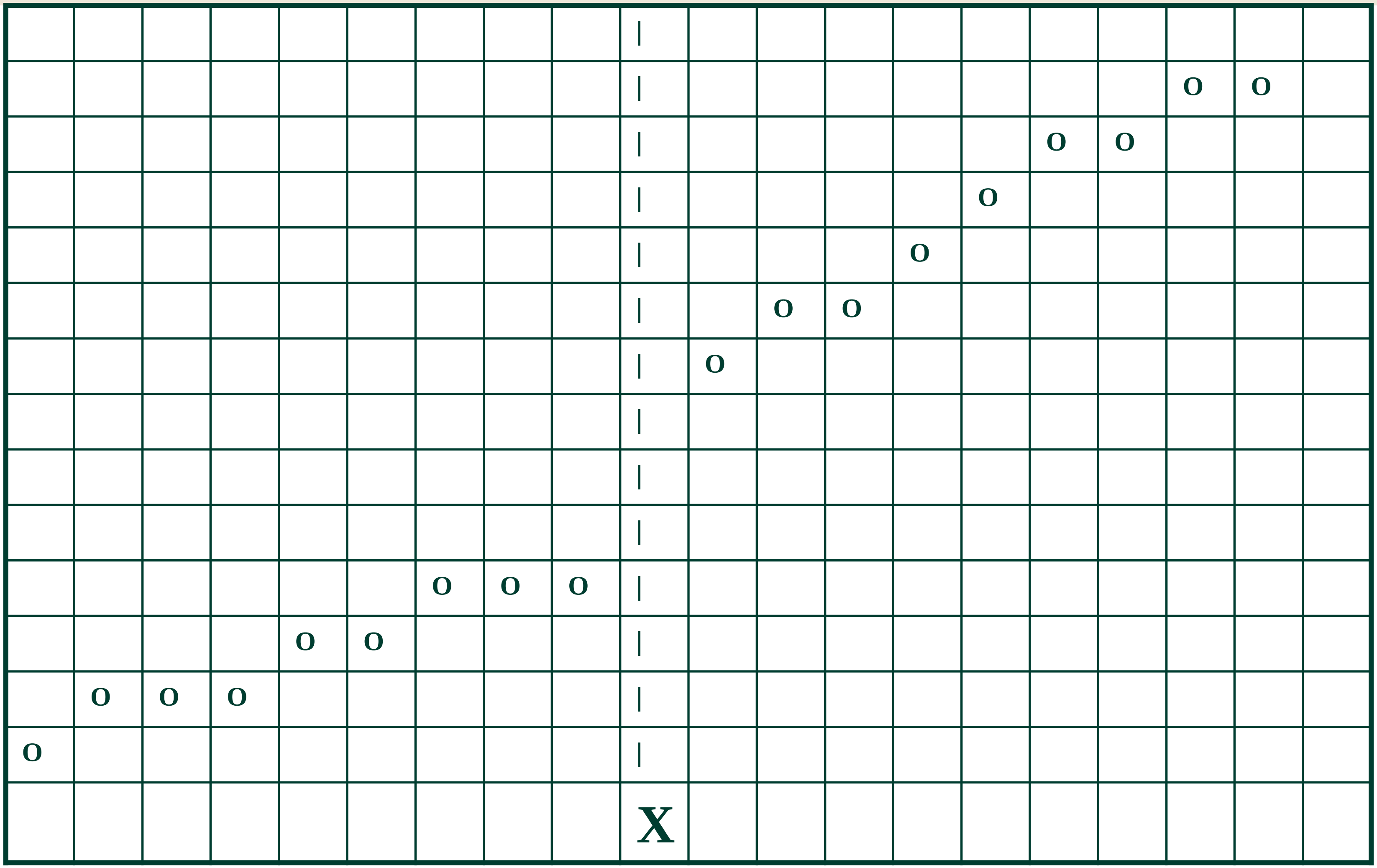


But Are We Sure It Was "X"?

- Did X cause all of the difference?
- What else might have contributed?
- Would X make the same difference the next time? Under different conditions?

Validity Of Measures

- **Measures used must avoid**
  - **Contamination: including factors that are not related to what you intend to measure (e.g., rewarding sales person on $ volume, which includes price increases over which reps had no control, in addition to units sold)**
  - **Deficiency: not including factors that are a part of what is being measured (e.g., appraising performance on quantity without considering quality)**

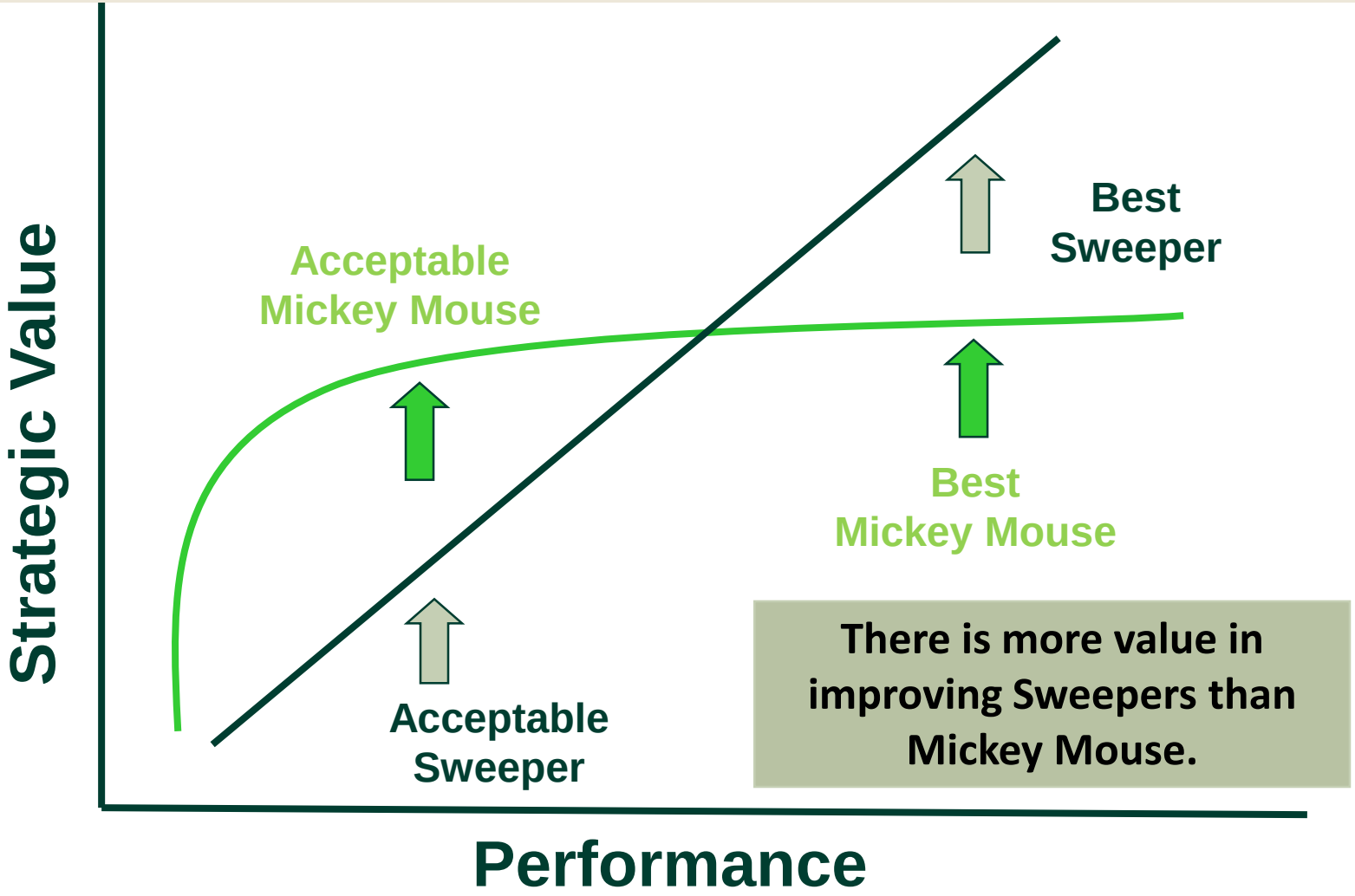
Example Of Poor Measure For Determining Incentives

- Sales reps for manufacturer paid on total sales volume ($)
- Included were parts orders to repair machines (up to 50% of volume for some of the reps)
- Company needed new machine sales
- Sales rep not involved in parts orders
- So paying for parts volume is _____?

Challenge: Appropriate Scaling

- 5 point performance appraisal scale may not produce useful data
  - Some jobs are "pass – fail"
- Do differences make a difference?
  - Need to know the return on improved performance

How Important Is Performance Variation?



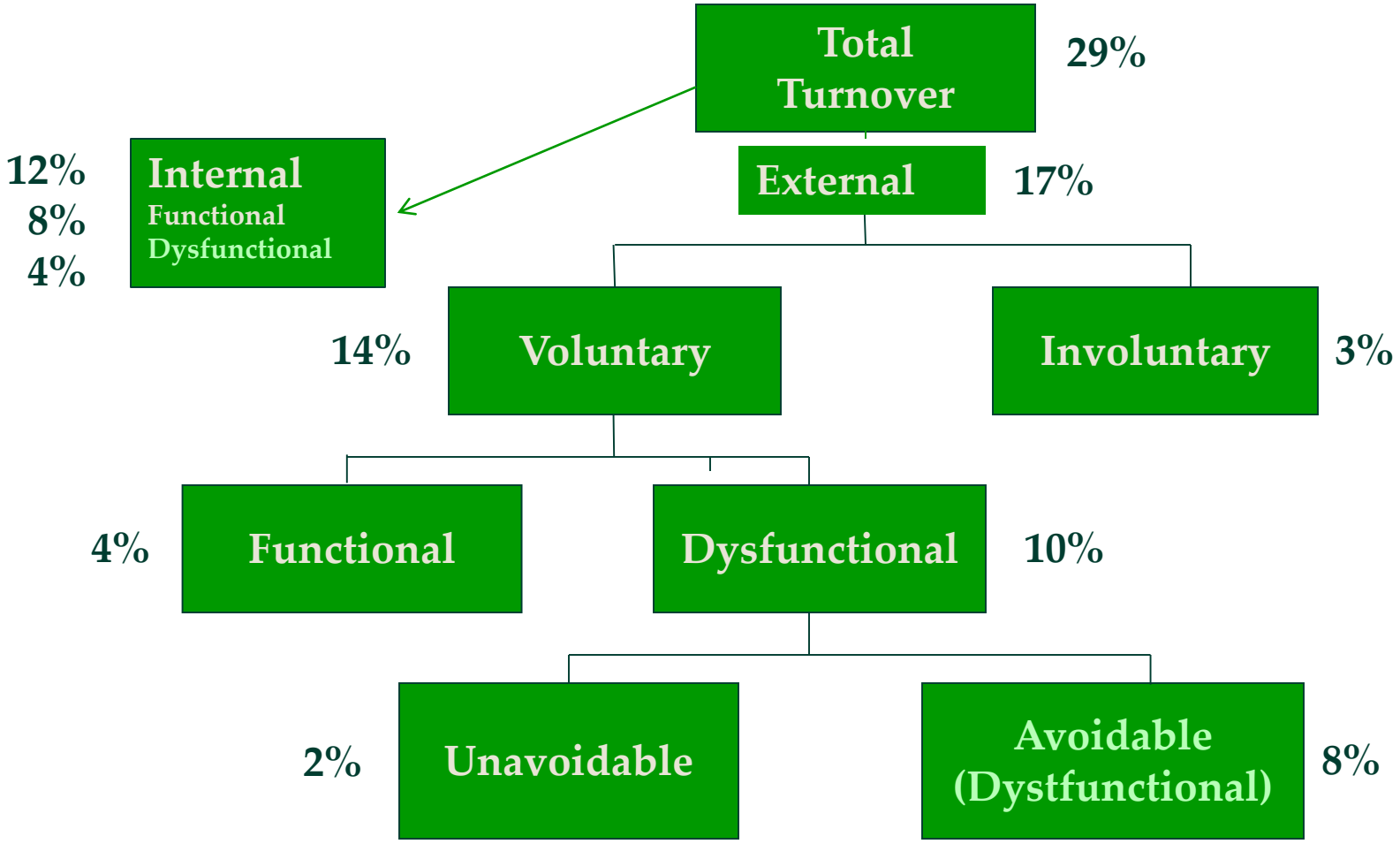
Source: "Beyond HR" by J. Boudreau & P. Ramstad

Evaluating Turnover

- How do you measure turnover?
- What is the acceptable range of turnover?
- Is it the same for all occupations/roles?
- What type of turnover?
- What is the impact of the turnover?
- What can be done about it?

Evaluate Turnover

Is It Too High? What Are The Implications?



Is This An Objective Analysis? Not Totally

- Is internal turnover good or a problem?
  - Someone has to make an assessment
- Is turnover to the outside "voluntary"?
  - Managers can make someone want to leave
- Is turnover to the outside "functional"?
  - Was there a celebration when person left?
- Was turnover avoidable?
  - Could actions be taken earlier to avoid it?

Bottom Line

- Evidence can be data based or judgment based
- Value of evidence varies depending on the application
- Data can support anything if it is manipulated or selection is poor
- Subjective opinions can be valid and provide unique insights
- We are not going to be replaced by machines!

And A Lot Depends On The Quality Of Your Analysts

Don't be afraid to step out of the box and to use wizards!

Must Haves In Your Library

- "A Short Introduction To Strategic HRM" – Cascio & Boudreau
- "Becoming The Evidence-Based Manager" – Latham
- "Beyond HR" – Boudreau & Ramstad
- "Applied Psychology In HRM" – Cascio & Aguinis

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