Kenneth A. Merchant

University of Southern California

9th Manufacturing Accounting Research Conference
Münster, Germany

24 June 2009

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Measures serve many purposes

Including:

- Problem finding
- Decision making; e.g.,
  - resource allocations
  - performance evaluations
- Motivation

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Theory

What makes a good performance measure (or set of measures)?

Measure(s) should be:

- **Congruent with organizational goals**
- **Controllable (influenceable)**
- **Timely**
- **Accurate (precise and objective)**
- **Understandable**
- **Inexpensive**

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Congruent with what?

(Long-term) value creation!

The primary corporate objective is to "maximize shareholder value."

- Other goals are means to this end.
- The goal of every employee should be to create value (in their own way).

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What is value?

The value of any economic good at any particular point in time is equal to the discounted value of its future cash flows.

$$V_0 = \sum \left[\frac{CF_1}{1+r} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \ldots \right]$$

Value created (or destroyed) in period 1 = $V_1 - V_0$

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Congruence

So we should try to use measures that go *up when value is created and down when it is destroyed*.

- This is “congruence.”

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A few measurement choices are easy

- **For example—a lower-level worker:**

Find a good indicator of value created

- **e.g., number of good units assembled (or baked)**

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Another example: a salesperson

A good indication of value created:

Sales made,

assuming:

- **sales are profitable**
- **customers can pay**

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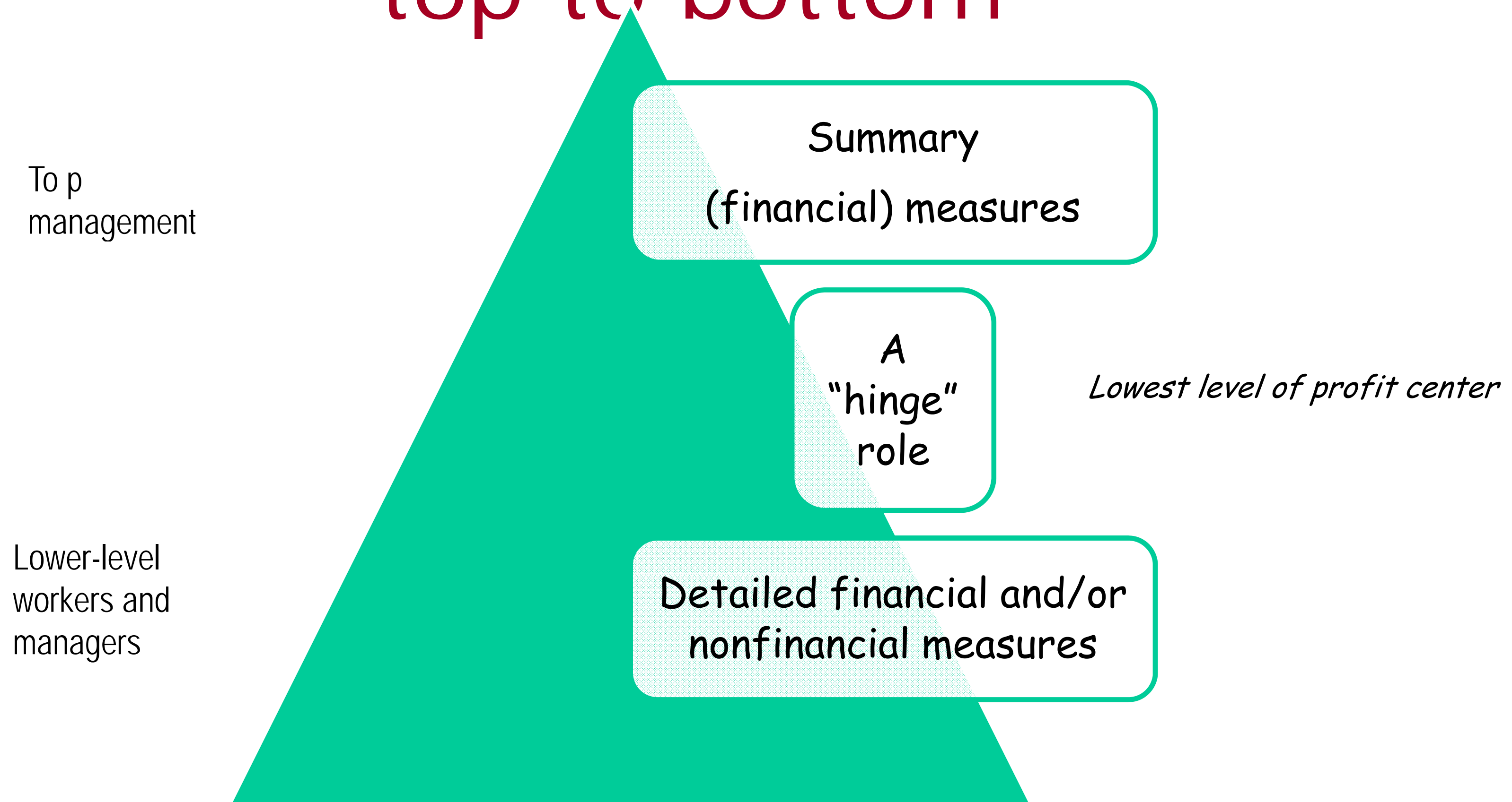
Measurement differences from top to bottom



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Practice

(Focus on general management organization levels)

The vast majority of companies rely heavily on summary-level accounting measures of performance; e.g.,

- **Profits**
- **ROA**
- **ROE**
- **EVA**

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But …

For management purposes, accounting measures are badly flawed.

The main flaw--congruence:

Accounting measures tell very little about how much value has been created (or lost)!

- *measures for financial reporting purposes ≠ measures for management purposes*

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Evidence of the flaw

One study of 172 large firms that had EPS growth ≥ 15% over 6 year period:

- In 27 (15%), shareholders realized *negative* rates of return (dividends less capital losses)
- In 60 (35%), shareholders had negative real returns (i.e., less than inflation)

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Evidence of the flaw (cont.)

Correlation between annual earnings (before extraordinary items) and annual value changes.

Easton et al. (1992)	.22
Biddle et al. (1997)	.25

More recent evidence, from 1990-2005. (Erkens and Merchant

Annual	.18
Quarterly	.13

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Are alternative financial-measure specifications any better?

Maybe not.

Correlations with market returns, annual (from Biddle et al., 1997)

Earnings before extraordinary items	.25
Residual income	.16
EVA™	.15
Cash flow from operations	.14

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Problems caused by focus on accounting measures of performance

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- Fail to identify real problems on a timely basis
- Poor decisions
  - Allocate resources to “dogs” rather than “stars”
  - Excessive short-term orientation (myopia)
- Gamesmanship

Why do firms focus accounting performance measures anyway?

1. Nice to have a single, global performance indicator.
2. Earnings/returns correlations are positive.
3. Some nice measurement properties
   a. Controllability can be tailored to the role (easy to disaggregate)
   b. Timely
   c. Accurate
   d. Understandable
   e. Inexpensive
4. Habit

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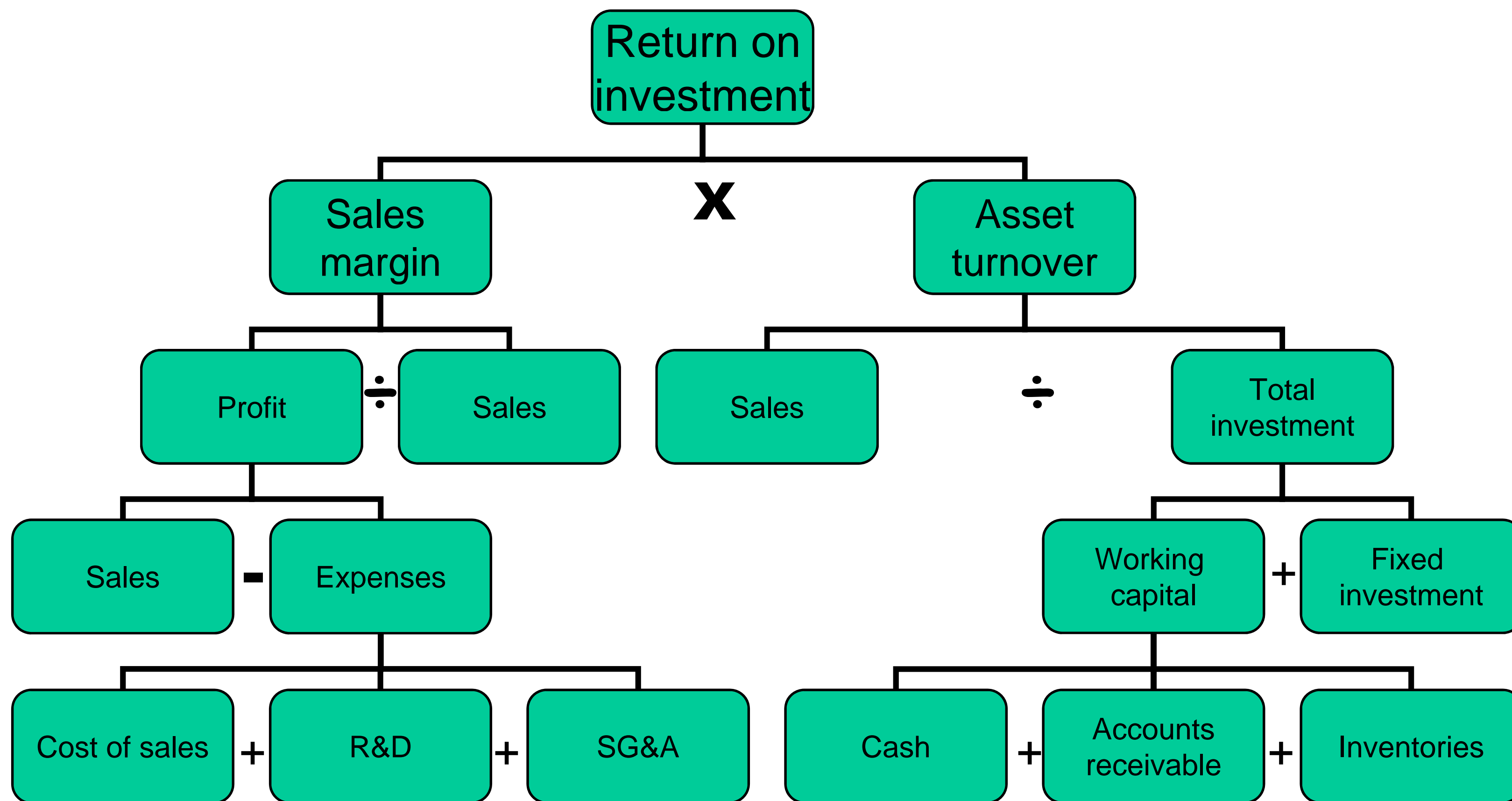
"DuPont" chart



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Why do firms focus accounting performance measures anyway? (cont.)

5. Misconceptions
   a. “Profit-making firms should make profits.”
   b. “Quarterly EPS reports drive stock prices.”
6. Political expediency

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Questions we might ask

1. Do accounting measures “work” anywhere?
2. What might be done where they don’t work?

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Do accounting measures work anywhere?

An industry-by-industry analysis of annual accounting earnings/market return correlations:
(Overall correlation = .18)

Greater than .3:

Oil and gas	.58
Mining/construction	.35
Manufacturing (misc.)	.32

Source: Erkens and Merchant

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Where are they particularly poor?

Annual:

Pharmaceuticals	.04

Quarterly:

Chemicals	.03
Mining/construction	.02

Source: Erkens and Merchant

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So what to do instead …

Four basic options:

1. Use market measures of performance
2. Extend the measurement window
3. Use non-GAAP financial measures
4. Use combinations of measures
   – Market and/or financial and/or non-financial measures

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1. Market measures of performance

- Obvious appeal.
- But some problems (e.g., feasibility, market imperfections)
- An example: the “market expectations problem”

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The market expectations problem (illustrated at Eastman Kodak)

- January 1993, Christopher Steffen was appointed chief financial officer
- Within 2 days, Kodak stock increased $2.2 billion
  - WSJ article cites Steffen's proven track records and his ability to cut costs
- April 1993, Steffen resigns (with few accomplishments). Kodak stock declines by about $2 billion

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2. Measurement window extensions

Profit/market returns correlations in different measurement windows:

One year:	.22
Two years:	.39
Five years:	.57
Ten years:	.79

Source: Easton, et al., 1992

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3. Possibly more informative non-GAAP measures of performance

- "Pro-forma" earnings
  - exclude line-items that are more distracting than informative
- Funds from operations (seems to "work" with REITs)
- Free cash flow
- EBITDA

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4. Combinations of measures

Many, many different approaches

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A “combination” example

General Electric CEO Jeff Immelt 2008

Performance evaluated *subjectively* based on:

- Revenues and organic revenue growth
- Earnings
- EPS
- Cash flow from operating activities
- Return on total capital
- Margins (%)
- Sustaining operating excellence and financial discipline
- Retaining an excellent team with a strong culture
- Managing the company’s risk and reputation
- Building an excellent investor base
- Leading the board’s activities
- Stock price

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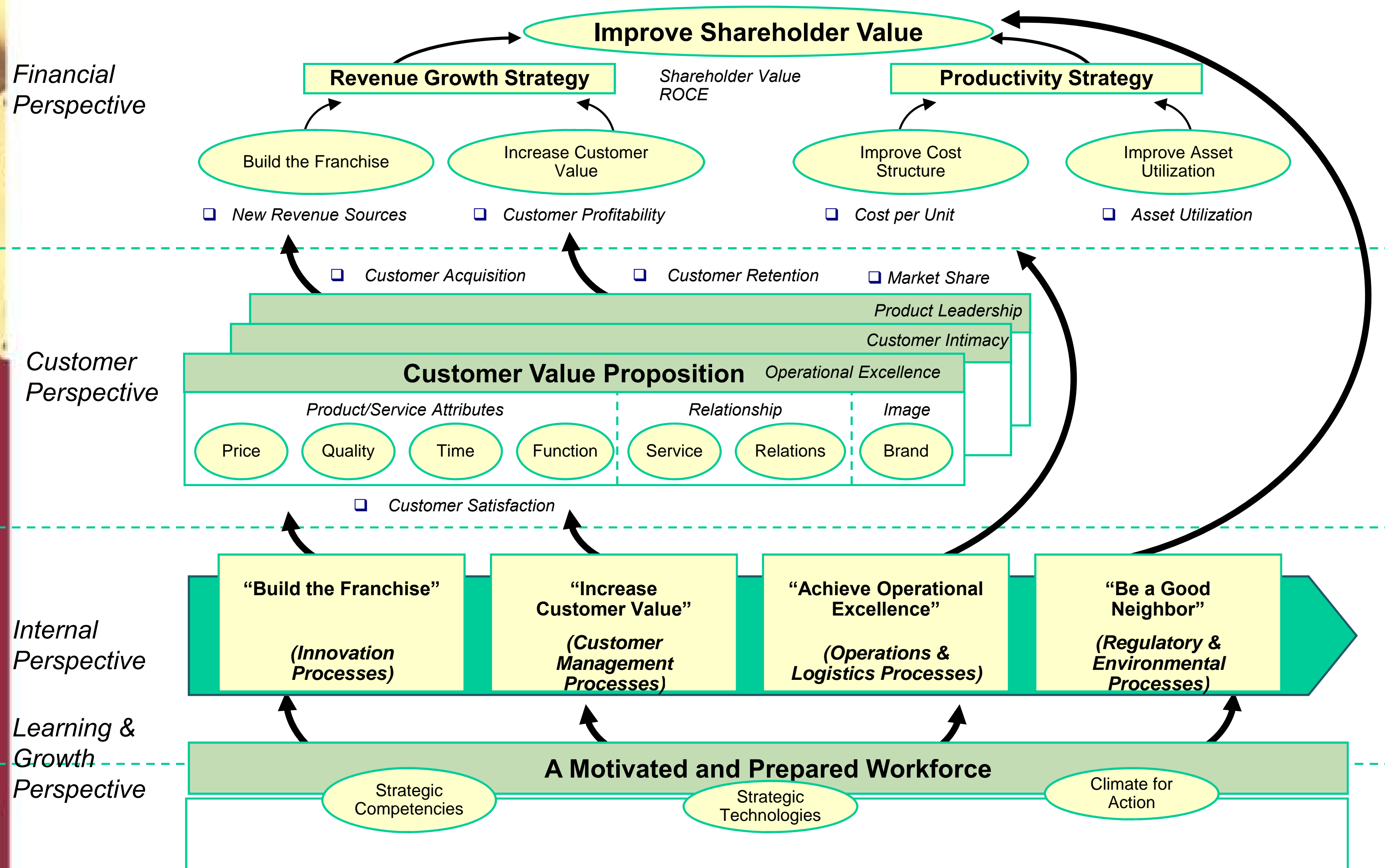
Another "combination" example



We don't know much about measurement combinations

Which sets of measures in what circumstances provide the best indications of value creation

– As well as provide everything else we want from a measurement system.

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If using a combination approach

Probably use a combination of:

- some short-term oriented, backward looking accounting measure(s) *with*
- some good “leading indicators” of forthcoming performance
  - Most of them non-financial

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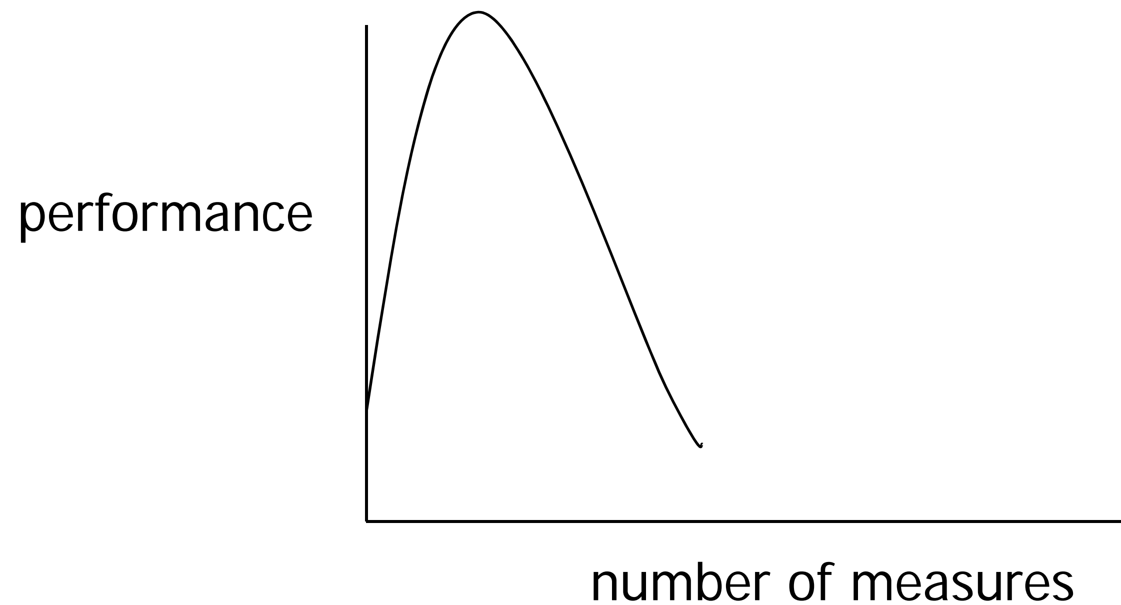
Are more measures better?

No, function is probably non-linear



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Some good news

We are accumulating significant useful knowledge about relationships among market returns, accounting measures and some *individual* non-financial measures (e.g., customer satisfaction).

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The bad news

- We don’t know much about when to use each of the alternatives I have discussed, individually or in combination, in any specific setting.
- We particularly don’t know much about the effects of the concurrent use of multiple performance measures.

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There is a lot of research that needs to be done.

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