The Art and Science of Valuing Intangibles and Managing Reputation

(or: The Confession of a Heartless Economist)

By

Baruch Lev

New York University

blev@stern.nyu.edu

baruch-lev.com

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What's It All About?

Symposium Question:

Is there really a market value of reputation? And if so, what are the key drivers of reputation?

Assertions:

- Reputation is a relevant driver of market value.
- It takes efforts and time to be established.
- Reputation may be lost quickly with devastating effects.
- It is only partially manageable.
- It is the totality of enduring images major stakeholders form.
- Reputation has implications for risk management.

At A Glance

- Symposium question.
- What qualifies something to be a part of market value?
- The economic nature and value determination of reputation.
- Examples of empirical valuation of reputation.
- General inferences about reputation.
- Enhancing/Managing reputation.
- Comments on statistical analysis.

To Be a Part of Market Value

- Reputation has to <u>create value</u>, individually or jointly with other assets, namely generate <u>distinct future benefits</u>, like patents, skilled employees, or information technology.
- But what precisely are the corporate benefits of reputation? Or, who is paying for reputation?

Consider the following scenarios:

When Is Reputation Important and Why?

	Service/Product	Reputation	Observabilty of Performance/Quality
I.	• Bank loans • Movie theaters	Unimportant	Perfect
II.	• Restaurants • Subways	Moderately Important	Good
III.	• Medical Services • Building Contractors	Very Important	Very Poor

Reputation compensates for incomplete observability of contractual performance and product quality.

So,What Is the Economic Nature of Reputation?

- It is a seller's guarantee or commitment of contracted performance and product/service quality.
- Accordingly, the benefits to the owner of reputation are the premia paid by the counterparty (customers, employees, suppliers, investors) for the guarantee.
- The value of reputation, and its share in the market value of the company is the discounted value of the expected premia stream, net of the cost of maintaining reputation.

Is This Real or Ivory Tower Stuff ?

Real, for sure. Here are several examples:

- Measuring the reputation of IPO (initial public offering) underwriters. Underwriters perform due diligence, and provide other important services to investors, thereby guaranteeing, to some extent, the quality of the largely unknown IPO. (Indeed, underwriters are often sued when IPOs are not successful.)

  Step 1: Assessing the quality of underwriters, and assigning ranks.

  Step 2: Estimating statistically the association between underwriter quality and IPO issue price, controlling for other price determinants.

  Step 3: Estimating the incremental funds raised due to an increase of one quality rank of underwriter.

Numerous studies established that underwriters' reputation is very valuable. To a somewhat lesser extent—the reputation of independent auditors is also valuable.

- <u>Amazon's reputation</u>. A guarantee for quick and reliable delivery and security of purchaser's information. But will people pay for it?

  <u>Step 1</u>: Collect a sample of actual viewings of book shopbots (price comparison), and actual consumer choices.

  <u>Step 2</u>: Compute reputation premium: average prices paid to Amazon minus lowest price offered.

  <u>Step 3</u>: Extrapolate Amazon's price premia over total book sales = Payment for reputation.

Finding: Amazon's reputation is substantial.

(MIT doctoral dissertation).

- <u>Top U.S. business schools.</u> A guarantee of high-level education, strong demand (and entry-level salaries) by corporate recruiters, and life-long social network.

<u>Schools</u>	<u>Annual Tuition</u>
Stanford,Harvard, Wharton, MIT	$38-41K
Berkeley, UCLA, Ohio	$30-35K
Florida, Texas, Washington	$21-24K

Harvard, Wharton…reputation's annual cash flow:
1,500 student x $20,000= $30 million (just MBA)

<u>Common to above examples</u>: Trace the money trail.

General Inferences About Reputation As A Guarantee

- Reputation is user-specific. A company, like Exxon has impeccable reputation among investors (delivering stable and improving performance, imparting credible communication) and poor reputation among environmentalists. Wal-Mart: reputable among customers, disreputable in labor union circles. McDonald's: Young U.S. customers vs. French elite.

  It is questionable whether an aggregate, corporate reputation exists (think Daimler)

- Like any other economic asset, the value of reputation and changes thereof can be derived from the stream of expected benefits. Without discernable benefits, made clear to investors, reputation will not affect market value.

- The management of reputation should be primarily aimed at enhancing the validity and credibility of the underlying guarantee. Reputation as an asset requires real resources to create and maintain. Guidelines below.

Esteem, legitimacy, commitment, emotional appeal, socially responsible, are nice to have, but: "show me the money."

Enhancing/Managing Reputation

- **General Guideline**: Solidify and enhance the value perceptions of the guarantee among the relevant user groups. This should be done by a smart combination of <u>actions</u> and <u>communications</u>. Examples:
- **Actions**: Cheap talk vs. put your money where your mouth is.
  - Extended guarantees by new car manufacturers (Kia—10 years)
  - Independent auditors of product quality (software).
  - Underwriters of IPOs.
  - Return with full refund policy.
  - Company shareholding by managers and board members

- **Communications**
  - Hospitals and doctors disclosing success/failure records.
  - Business school disclosing salaries of graduates.
  - Biotech companies with scientific stars on board.
  - Restaurants: "Under same ownership since 1970."
  - Airline's punctuality and lost baggage record.
  - Product pipeline disclosure by pharma companies.
  - But, expensive ad campaigns of oil companies proclaiming environmental sensitivity, community support: "cheap talk"? Effective?

Reputation is created/harmed mostly in two arenas: Product market and capital market (BMW—the best workplace).

Thus, first and foremost—<u>deliver the promise</u>: high quality products, good financial performance.

Finally, How to Determine Statistically The Value of Reputation and Its Drivers.

- Most available studies use published reputation scores (e.g., Fortune, Fombrun RQ), or conduct own surveys to identify drivers and establish benefits.
- The presumed value-chain:

Reputation Drivers → Corporate Reputation Score → Benefits

➢ Available validation tests

Left Link: correlation studies of drivers (PR campaigns, charitable contributions, environmental activities) and reputation scores.

Right Link: correlation studies of reputation scores and benefits (sales, earnings, stock values).

Left-right links: correlation studies of drivers and benefits.

Statistical issues:

1. Omitted correlated variables.
2. Causality.
3. Ignoring benefit stream.

Disentangling Causality from Correlation: Granger Causality

Causality should manifest itself over time. For example:

R&D increase in current year → Sales increase in future years.

Employee training in current year → productivity increase future years.

Difficult to argue that a sales increase in 2000-2002 was caused by R&D increase in 2003-2005.

A Surprising/gratifying example:

Question: Are corporate charitable contributions enhancing performance (sales), or the other way around?

Step 1: Contemporaneous correlations-Spearman (n=2,032 cases during 1991-2000)

- **Gifts and Sales: 0.78**

This high correlation just indicates that large companies contribute more than smaller ones.

- **△Gifts and △Sales: 0.25**

Here, company size is controlled for (% change). Correlations are much smaller, but still significant. But what's the direction of causation?

Step 2: Granger Causality; Regress:

$$\triangle Sales_t = a + \underset{0.05^*}{b_1} \triangle Gifts_t + \underset{0.06^*}{\mathbf{b_2}} \boldsymbol{\triangle Gifts_{t-1}} + \underset{0.01}{b_3} \triangle Gifts_{t-2} + \Sigma$$

$R^2 = 5\%$

$$\triangle Gifts_t = a + \underset{0.40^*}{b_1} \triangle Sales_t + \underset{0.11}{b_2} \triangle Sales_{t-1} + \underset{0.03}{b_3} \triangle Sales_{t-2} + \Sigma$$

$R^2 = 1.5\%$

Causality untangled: Sales growth in a given year is associated with gifts growth of <u>previous year</u>. However, Gifts growth in a given year are not associated with past sales growth.

Continued…

Step 3: Add control variables (correlated omitted variables)—R&D and Capital Expenditures—but Gifts_{t-1} is still significant.

$\triangle \text{Sales}_t =$ $a + b_1 \triangle \text{Gifts}_t + \mathbf{b_2 \triangle Gifts_{t-1}} + b_3 \triangle \text{Gifts}_{t-2}$

0.03* **0.03*** 0.00

$+ b_4 \triangle \text{R\&D}_t + b_5 \triangle \text{R\&D}_{t-1}$

0.06* 0.16*

$+ b_6 \triangle \text{R\&D}_{t-2} + b_7 \triangle \text{CapEx}_t + b_8 \triangle \text{CapEx}_{t-1}$

0.01 0.05* 0.06*

$+ b_9 \triangle \text{CapEx}_{t-2} + \Sigma$

0.03*

R^2= 24% (22% without Gifts)

Takeaways

- Reputation is the outcome of a credible guarantee/commitment.
- Value of reputation derives from funds people pay for the guarantee.
- To be included in market value, investors have to recognize the reputation-related cash flows.
- The management of reputation is a combination of user-specific actions and communications.
- To improve empirical work: identify reputation payments; use changes of variables—not levels; disentangle causality; focus on what people do (e.g., pay IPO price premium), rather than what they say they do (hold the company in high esteem).