

Intangible assets and shareholder value

It is becoming increasingly clear that markets punish companies with poor intangible asset management strategies. Recent events have only served to emphasise this

By **Jorge M Torres** and **Nir Kossovsky**

A corporation's financial strategy has a long-lasting impact on shareholder value creation. Financial strategy is the product of the corporation's investment, financing and dividend decisions. Quantitative metrics guide the processes managers use to make financial decisions, as well as shareholders' assessments of the relative success or failure of these decisions in creating shareholder value.

In this article, we examine quantitative metrics of intangible asset financial strategies employed by the managers of publicly traded firms during the first half of 2008. We report that the benefits of implementing an intangible asset financial strategy can be discerned and affirmed, notwithstanding the economic challenges that publicly traded companies were facing during this period.

The value of superior stewardship

In an ongoing series of studies, our data consistently show that superior stewards of intangible assets reward their shareholders with returns that are on the order of three times greater than their peers. We believe these differences in returns reflect a range of differing perceptions held by managements of the role of intangible asset stewardship. Those perceptions can be summarised as follows:

- Intangible asset management is perceived simply as the price of doing

business with only marginal intrinsic value (the as-little-expense-as-possible approach).

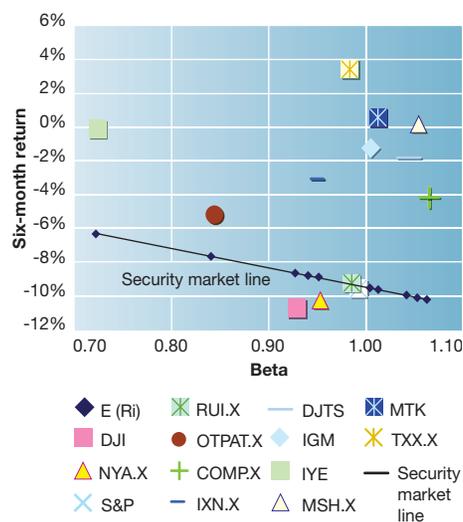
- Intangible asset management is perceived as a strategy (standardise across the operation to strengthen intangible asset management but rationalise the cost).
- Intangible asset management is perceived as a strategic opportunity to maximise firm value (implement best practices of intangible asset management as a means of identifying, capturing and valuing opportunity).

These generalisations, however, can be refined. Different economic sectors at different times show different sensitivities to intangible asset investment and development efforts. A striking example is the growth in the perceived importance of environmental sensitivity, social awareness and governance (ESG), all of which are intangible assets. In a report published in August 2008 by the non-profit business association Business for Social Responsibility as part of the Advanced Policy Analysis project at the Goldman School of Public Policy at the University of California, Berkeley, the authors note that mainstream investment firms are increasingly incorporating ESG criteria into their overall investment analyses. The report notes that Goldman Sachs's GS Sustain Focus List, which predicts the top corporate performers primarily by evaluating how well they integrate ESG criteria into their businesses, has outperformed the world stock index MSCI by 25% since August 2005.

Our study reported herein builds upon the work reported in this magazine earlier this year by Gerken *et al* (*IAM* 31, pages 61 to 65), which showed that Steel City Re's

The objectives of the Intangible Asset Finance Society (www.iafinance.org) are to increase the visibility, transparency and positive impact of intangible asset finance through education, advocacy, and the promulgation of standards. *IAM* magazine, a Globe White Page Ltd publication, is the media partner of the Society. *IAM* magazine publishes in each issue a contribution from the Society on a noteworthy intangible asset finance matter.

Figure 1: Six-month return plotted against relative risk (Beta) for the period 4th February to 4th August 2008 for technology/intellectual property indices (see Table 2), broad market indices (DJI, NYA.X, S&P, RUI.X), and an energy index (IYE)



Intangible Asset Financial Performance Index (the IA Index) could be used to explain the financial gain or loss of firm value attributable to reputational enhancement or impairment. Here we show that the IA Index can explain the financial gain or loss of firm value that is attributable to management's perceptions of the inherent benefits of pursuing financial strategies that incorporate intangible asset management best practices. In so doing, we provide further evidence that markets, particularly in challenging economic times, reward companies that view intangible asset management as a strategic opportunity.

Technology/intellectual property indices

In the first part of our study, we examined the risk-adjusted returns of several technology and intellectual property indices to determine whether we could identify superior returns relative to the broad market in much the same way that the GS Sustain Focus List could be used to predict which firms have been the most likely to outperform the market since 2005. The indices chosen were the following:

- CBOE Technology Index.
- Morgan Stanley Technology ETF.
- Morgan Stanley High Technology 35 Index.
- iShares Goldman Sachs Technology Index Fund.
- DJ Technology Sector Index (custom index created using Dow Jones sector data).

- Ocean Tomo 300 Patent Index.
- iShares S&P Global Technology Sector.

We compared these to the NASDAQ Composite – a broad technology-heavy index. We also compared these to the returns for other broad market indices: the Russell 1000 Index, Standard & Poor's 500 Index, NYSE Composite and the Dow Jones Industrial Average. Finally, for contrast, given the recent intensive market focus on energy matters, we also included the iShares Dow Jones US Energy index in our analysis.

For the six-month period 4th February to 4th August 2008, all technology and intellectual property-focused indices outperformed the broad market. This is a relatively short window of time, but it presents a unique opportunity to examine the contribution that superior intangible asset management makes to firm value. This is so because the broad market was struggling during this period with a perceived lack of integrity of balance sheets and with the virtual collapse of markets for credit. Under these circumstances, the value of intangible assets – such as quality, integrity, safety, security, innovation and ethical sourcing – relative to tangible assets would be expected to be more pronounced, and therefore more easily measured.

On a risk-adjusted basis, the CBOE Technology Index produced excess returns of nearly 13%. The least risky (volatile) index was iShares Dow Jones US Energy, with a relative beta (compared to the S&P 500) of about 0.7 and absolute returns of

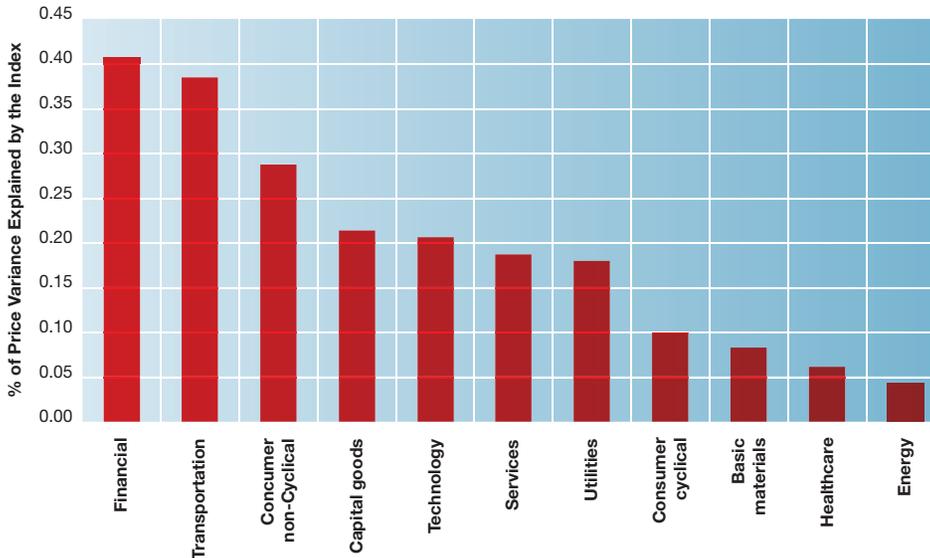
Table 1: Indices examined for evidence that markets reward companies that focus on managing technology and intellectual property

TXX.X	CBOE Technology Index
DJTS	DJ Technology Sector Index (Proprietary)
DJI	Dow Jones Industrial Average
IYE	iShares Dow Jones US Energy
IGM	iShares Goldman Sachs Technology Index Fund
IXN	iShares S&P Global Technology Sector
MSH.X	Morgan Stanley High Technology 35 Index
MTK	Morgan Stanley Technology ETF
COMP.X	NASDAQ Composite
NYA.X	NYSE Composite
OTPAT.X	Ocean Tomo 300 Patent Index
RUI.X	Russell 1000 Index
S&P	Standard & Poor's 500 Index

Table 2: Risk-adjusted return is calculated by measuring the return of the index in question relative to the security market line, which is the level of expected return in the broad market for market-level risk

	Return relative to the market on a risk-adjusted basis
TXX.X	12.848%
MSH.X	10.352%
MTK	10.306%
IGM	8.373%
DJTS	8.280%
IYE	6.287%
COMP.X	6.197%
IXN	5.956%
OTPAT.X	2.660%
RUI.X	0.002%
S&P	-0.099%
NYA.X	-1.146%
DJI	-1.966%

Figure 2: During the economically challenging period of 4th February to 4th August 2008, intangible asset financial management as captured by the Intangible Asset (Reputation) Financial Performance Index explained 41% of the price variance in the financial sector. In contrast, it explained less than 4% of the price variance in the energy sector. These data reflect the market's differing perceptions of the importance of intangible asset financial management (eg, integrity) in creating value in financial service companies and in energy companies.



nearly 0%. Unsurprisingly, given the period under examination, the energy index outperformed the market on a risk-adjusted basis by 6.3%. Also, consistent with observations reported last year in this magazine by Hanf, *et al* (*IAM* 25, pages 51 to 54), the returns of the Ocean Tomo 300 Index appear to follow closely the security market line. Of the technology and intellectual property indices examined, all, including the NASDAQ Composite, outperformed the Ocean Tomo 300 on a risk-adjusted basis (Table 2).

Our data show that capital markets will reward companies that focus on the intangible assets of innovation and intellectual property, particularly in times when macroeconomic forces are subjecting their balance sheets to increased scrutiny. This was observed in indices with as little as 30 underlying components (CBOE Technology Index), as well as in indices that track the performance of almost 3,000 underlying components (NASDAQ Composite).

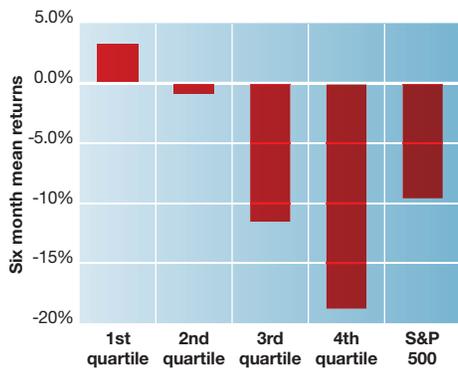
Generalised intangible asset strategies

As discussed above, Gerken *et al* recently described in this magazine the IA Index, which is used by Steel City Re to project the expected financial gain or loss arising from reputational enhancement or loss. Abstracts

of the index are published by the Society on its website, www.iafinance.org. The Gerken report showed that companies whose index rankings place them in the top 25% of the 2,483 companies studied during the 28-month period from December 2005 to February 2008 rewarded shareholders with an average (portfolio) return of 18%, which is about three times the market return of 6% during the same period. Moreover, companies whose intangible asset management was very good and that continued to improve delivered outstanding returns. In the second part of the instant study, we extended this analysis to include data obtained between February and August 2008. We examined the significance of IA Index volatility as well as the factors Gerken *et al* studied previously. We also examined sector differences.

Affirming the premise that the value and market pricing in different sectors is variably linked to intangible asset management, the data on the 3,307 companies we studied shows that during the period of credit market upheaval when balance sheets were suspect, the financial service sector is where intangible asset financial management activity appears to have had the greatest impact on firm value. Mean variance analysis shows that during this period, intangible asset financial

Figure 3: Average portfolio returns for 110 consumer non-cyclical companies ranked by their Intangible Asset (Reputational) Performance Index standings for the period 4th February to 4th August 2008



management variables comprising absolute index ranking, index directional change and index volatility explained 41% of the variance in financial sector value. During this same period, these three index-linked variables explained 38% of the transportation sector's value variance and nearly one-third of the variance in the consumer non-cyclicals (Figure 2).

Exemplary financial sector companies included Berkshire Hathaway Inc, Dun & Bradstreet Corp and White Mountains Insurance Group Ltd, all of which obtained top index rankings for this period. Exemplary transportation sector companies included Burlington Northern Santa Fe Corp, Union Pacific Corp and Canadian Pacific Railway Ltd. Exemplary consumer non-cyclicals included PepsiCo Inc, Colgate-Palmolive Co and Procter & Gamble Co.

Confirming observations reported previously, the IA Index ranking and the IA Index trend (upward or downwards) were statistically significant predictors of market

value for all sectors during the period of our study except, for the energy sector. While increased index volatility correlated marginally with lower values overall, and for each sector individually except for the basic materials sector, there was a strong inverse correlation of -0.29 between volatility and economic return (ROI) for consumer non-cyclicals. The returns for this sector during this period show a typical pattern. On a portfolio basis, companies in the top quartile of the index during this period returned an average of 3% and a median of -0.4%. Companies in the second quartile returned an average of -0.8% and a median of -1.4%. Third-quartile companies on a portfolio basis returned mean and median values of -11.5% and -10.8% respectively, and in the bottom quartile returned mean and median values of -18.8% and -20.3% respectively (Figure 3).

Intangible assets are valuable

As many have observed here and elsewhere,

Figure 4: IA Index ranking of select financial sector firms in the broad market

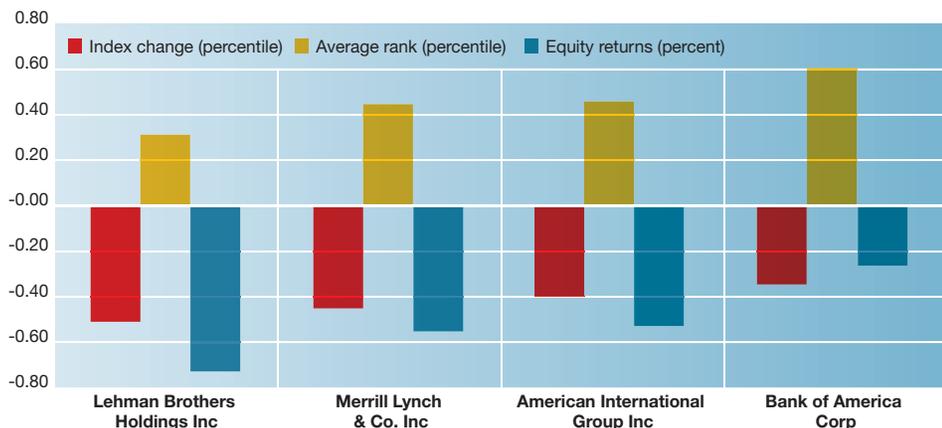


Spotlight on the financial sector

Two years ago, the financial sector IA Index rankings relative to the broad market were in the upper quartile as shown by the performance of three exemplary firms: American International Group Inc (AIG), Bank of America Corp, and Merrill Lynch & Co Inc. In addition, Lehman Brothers Holdings Inc was, at the time, working its way up into the top quartile. By late summer 2007, however, the reputation of the entire sector as measured by the IA Index was deteriorating rapidly and in the first half of 2008, it explained 40% of the variance in stock price.

Between February and August 2008, the reputations of some firms continued to deteriorate more rapidly than others. The average IA Index rank of these same four firms within the 445-member financial sector, their six-month change in rank and the economic return (loss) to equity shareholders are all shown in Figure 5. By 17th September 2008, Lehman Brothers Holdings Inc had filed for bankruptcy protection, Merrill Lynch & Co Inc had been acquired by Bank of America Corp and the Federal Bank of New York had provided AIG an \$85 billion credit-liquidity facility in exchange for warrants representing approximately an 80% equity stake in the firm.

Figure 5: IA Index and returns – financial sector only



Intangible assets currently comprise on average 70% of the market capitalisation of companies in the public markets. Reputations take shape from the perceptions that stakeholders have about an enterprise's intangible assets. These reputations drive investment decisions, particularly under conditions that prevailed during the period of our analyses, when balance sheets and other conventional financial reporting mechanisms were perceived as being unreliable. The data reported here shows quantitatively that shareholders value intangible asset management and that investment strategies that incorporate intangible asset value are, and will be, rewarded with superior returns.

To be sure, the granularity of our study is limited by at least two distinct phenomena.

First, intangibles are, by definition, a heterogeneous asset class. The relative contributions to firm value of individual intangible assets cannot be resolved easily. Thus, if a firm today were to excel both in ESG principles and in innovation, we would be unable easily to resolve the relative contribution of each of these major intangible assets to the overall value of the enterprise. In this way, intangible asset value is very much like a Roman arch. The individual contributions of component intangible assets are apparent, yet hard to disaggregate from the whole. The value of each individual intangible asset is highly dependent on that of the others and the loss of any one can cause the entire structure to collapse. As we and countless others have noted in this magazine and elsewhere, accounting maths cannot adequately describe the interdependence of these assets.

Second, it is difficult to measure the contributions to overall firm value of individual intangible assets when markets are unattuned to their significance. For example, when markets were relatively indifferent to corporate governance and social concerns, as they generally were prior to 1998, ESG value would not have been a discernable contributor to intangible asset value or overall enterprise value. Similarly, if innovation were perceived by the markets today to be just another commodity, intellectual property-driven strategies aimed at increasing firm value would be unlikely to make a measurable impact on investors' assessments of the financial performance of firms.

Nevertheless, the message to be gleaned from our study is clear: intangible assets are valuable and quantifiable financial assets. That value needs to be managed; risks to

that value need to be mitigated; and the resulting enhancement and conservation of that value need to be communicated to stakeholders in quantitative terms. **iam**

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