Volume 22 No. 2 jwm.pm-research.com Fall 2019

# The Journal *of* Wealth Management

"Finding and sticking to an approach that maximizes individuals' asset allocation staying power is not only the most suitable way of conducting an asset/liability matching in the individual investor world, but is also the one that minimizes the risk of investment catastrophes."

***Jean Brunel*** – *Editor's Letter*

Jeffrey B. Madden

## The World Has Changed: *Investing in the New Economy*

PORTFOLIO MANAGEMENT RESEARCH

RMB CAPITAL

RMB CAPITAL

RMB Capital is determined to create value for those we serve. We leverage our team's insights and expertise to deliver specialized financial advice and innovative investment solutions that are designed to preserve and grow assets over the long term.

- RMB Wealth Management offers what we believe is a rare combination of capabilities when it comes to in-house planning and investment expertise. Our iterative, planning-through-implementation process establishes the foundation for managing each client's complex financial picture, even as market conditions and personal circumstances change.
- RMB Family Office Services aims to strike each client's optimal balance of control and freedom. With a fully customizable selection of planning, investment, accounting, and reporting services, our team of senior professionals delivers tailored solutions based on the desired scope of each relationship.
- RMB Asset Management strives to capture untapped value for investors. We specialize in long-term, concentrated, active investing strategies that are complemented by a select line-up of differentiated absolute return offerings. United by an emphasis on fundamental research and a belief that quality portfolios outperform, our coverage spans the market-cap spectrum and the globe.
- RMB Retirement Plan Solutions focuses on driving measurable improvements across all aspects of an organization's retirement plan in order to optimize outcomes for the firm, its employees, and its executives. We serve as a co-fiduciary, taking a holistic, impartial, disciplined approach to drive results.

For additional information on RMB Capital and our practice areas, please visit www.rmbcap.com.

**Jeffrey B. Madden**

Jeffrey B. Madden is a senior vice president and portfolio manager at RMB Capital. Prior to joining the firm's asset management group in 2017, he was a partner and portfolio manager at IronBridge Capital Management and also worked at Accenture in the Retail Management Consulting Practice. Jeff is an active board member of the Heartland Institute, which focuses on free-market-based programs to boost economic progress for those on all rungs of the income ladder; Leading India's Future Today, which offers educational programs attuned to sound economic thinking; and the Bartley J. Madden Foundation, which creates employment opportunities for those most in need. He also serves on the Executive Council for the Cara Program. Jeff graduated from the University of Iowa with Business Honors and Distinction.

# The World Has Changed: *Investing in the New Economy*

**Jeffrey B. Madden**

**Jeffrey B. Madden**
is a senior vice president and portfolio manager at RMB Capital in Chicago, IL.
**jmadden@rmbcap.com**

**ABSTRACT:** *Today's higher proportion of investments in intangible assets versus tangible assets is emblematic of a structural change in value creation. Investors have experienced that the digital network effects and other changes of the "New Economy" provide a different path for big winners, unlike that of the "Old Economy." Moreover, the deterioration in the usefulness of generally accepted accounting principles (GAAP) accounting in general, and price/earnings ratio (P/E) in particular, pose a significant problem for investors. However, there is a sizable opportunity to be found by focusing on what has not changed. That is, the long-term life-cycle performance of firms is driven by the interplay of managerial skill (especially for nurturing a firm's knowledge-building proficiency) and competition. This life-cycle framework is a uniquely useful guide for investors to navigate the New Economy. A key ingredient is a firm's economic returns adjusted for GAAP deficiencies, for example, capitalization of research & development expenditures. This article provides an example of how life-cycle thinking leads to practical investment insights along with a case study of IDEXX Laboratories. This example represents the type of analysis needed to generate alpha via a portfolio of firms with skills attuned to the New Economy.*

**TOPICS:** ***Security analysis and valuation, portfolio construction, performance measurement****

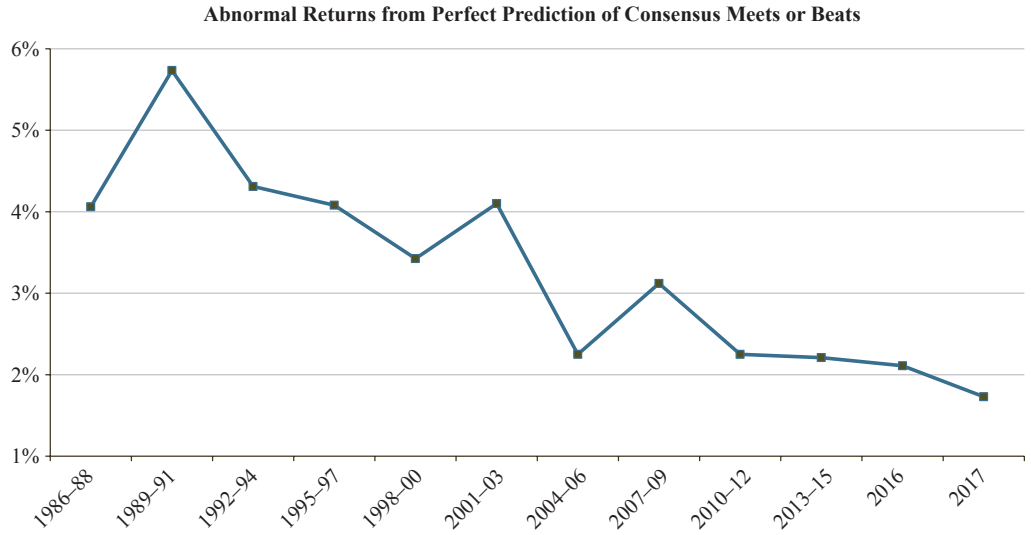
*All articles are now categorized by topics and subtopics. **View at PM-Research.com.**

The higher proportion of investments in intangible assets versus tangible assets that is common today is emblematic of a structural change in value creation. Investor experience in the "New Economy" is that today's digital network effects and other changes are providing a different path for big winners. In contrast with the "Old Economy," investors have found that in the New Economy, the speed of change is faster and the risk–reward profiles are wider, with greater upside but also greater downside. Many firms on the wrong side of digital network effects are headed to the graveyard, regardless of past business success.

The deterioration in the usefulness of generally accepted accounting principles (GAAP) accounting in general, and price/earnings ratio (P/E) and price/book ratio (P/B) in particular, pose a significant problem for investors. With a focus on what has not changed, investors can find a sizable opportunity; that is, the long-term life-cycle performance of firms is driven by the interplay of managerial skill (especially for nurturing a firm's knowledge-building proficiency) and competition.

The article begins with quantitative highlights of the New Economy and a summary of key empirical findings concerning how intangible assets impact firms' profitability and market valuation. The primary challenge for investors in the New Economy

## EXHIBIT 1
**Relevance Lost—Quarterly Earnings**




*Source: Lev (2018b).*

is the limitations of GAAP accounting, which are explained using Microsoft's evolution to become one of the most highly valued firms. Next, a case is made that the life-cycle framework overcomes the obsolescence of conventional valuation metrics tied to GAAP-accounting data. A key ingredient is a firm's economic returns adjusted for GAAP deficiencies, such as capitalization of research & development (R&D) expenditures. An example of how life-cycle thinking leads to practical investment insights is provided with a case study of IDEXX Laboratories. The final section includes a thinking template for generating alpha (excess shareholder returns) via a portfolio of firms with skills attuned to the New Economy.

## THE NEW ECONOMY

Imagine you are starting your investment management career with the clairvoyant ability to predict earnings each quarter for all US publicly traded companies. Surely, you would be on your way to joining the ranks of the all-time great investors. Not necessarily. Professors Baruch Lev and Feng Gu showed how one would perform with two months' advance knowledge of all the beats and misses of quarterly earnings versus consensus estimates (Gu and Lev 2017). As illustrated in Exhibit 1, the abnormal gains from such unique forecasting ability fell from 6% in 1989–1991 to 2% in 2013–2015. After transactions costs, the return from this extraordinary predictive ability is approximately zero today.

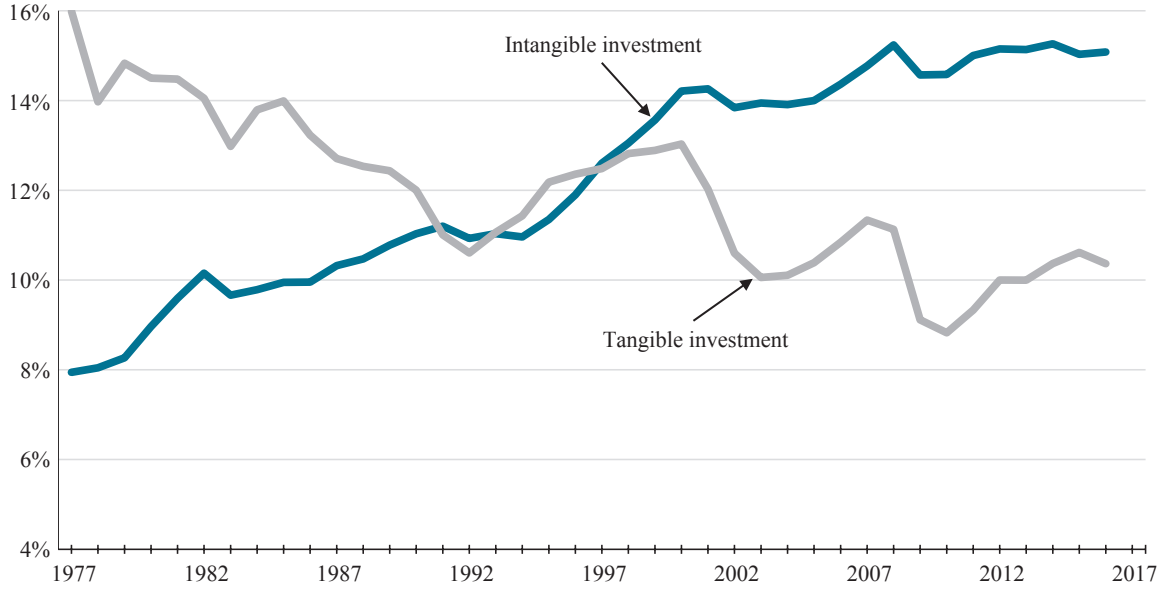
How many times, on average, would you expect a company's 10-K to be downloaded on the day of its release? In today's digitized world, you'd think it would be thousands, but surprisingly that is not the case. A recent study reported that the median number of 10-K downloads on the day of release was 11—a staggeringly low number (Loughran and McDonald 2017). Investors have adapted to the New Economy in which reported accounting information is much less relevant.

As to the New Economy, Microsoft cofounder Bill Gates commented:

> The portion of the world's economy that doesn't fit the old model just keeps getting larger. That has major implications for everything from tax law to economic policy to which cities thrive and which cities fall behind, but in general, the rules that govern the economy haven't kept up. This is one of the biggest trends in the global economy that isn't getting enough attention (Haskel and Westlake 2018).

During the Berkshire 2017 shareholder meeting, Warren Buffet noted a fundamental change in the

## EXHIBIT 2
**The Intangibles Revolution**




*Source: Corrado and Hulten (2010), Lev (2019).*

business environment. He remarked that Andrew Mellon would be baffled that the largest firms (as measured by stock market value) have minimal conventional property, plant, and equipment assets, yet they have an abundance of intangible assets. Intangibles include R&D outlays, patents, advertising expenditures to build brands, development of lean manufacturing and design expertise, internet platforms that become more valuable as more users join (e.g., Facebook), and myriad ways to build knowledge that ultimately provide future benefits.

In the New Economy, monetary policy has been less effective. For example, a case can be made that the rise of intangible assets explains much of the weakness in tangible capital investment since 2000. The hypothesis presented at the 2018 Jackson Hole Economic Symposium is that intangible capital is less interest-sensitive and less collateralizable than physical capital. As such, monetary policy is unlikely to influence intangible investment as strongly as it does traditional investment (Crouzet and Eberly 2018).

Exhibit 2 illustrates the rising proportion of corporate investment for intangible assets versus tangible assets over the last 40 years. Since the early 1990s, high-innovation companies, such as Google, Amazon, and Microsoft, invested heavily in intangible assets to the benefit of society in general, and their customers, employees, and shareholders in particular. In contrast, Sears and many other firms with business-as-usual cultures failed to adapt to the New Economy and find themselves faced with massive layoffs—or bankruptcy. Long-term shareholders and former employees now ask, "What went wrong?" The key point is that GAAP generates information that misses value creation in the New Economy.

## COMMON SENSE AND EMPIRICAL EVIDENCE

Successful intangible investments provide significant future benefits. However, accounting principles require in almost all cases that these investments be expensed. Common sense argues that investors should incorporate intangibles as an integral part of their investment analysis of firms. And they should do this in a manner that is more useful than just accepting both lower accounting earnings due to full expensing of intangible outlays and related return-on-capital metrics that are biased in complex ways (Lev, Sarath, and Sougiannis 2005). Moreover, a focus on the scalability of a firm's intangibles,

when they represent a substantial part of a firm's assets, is important because this may result in exceptionally large future gains or losses to shareholders.

There is a substantial literature documenting the economically consequential connection between intangible investments and the profitability of firms and their market valuations (Wyatt 2008; Lev 2018a, b). Here is a sample of insights from *Intangible Assets: Values, Measures, and Risks*, edited by John Hand and Baruch Lev, which summarized early empirical findings:

- Capitalizing and amortizing R&D provides adjusted earnings and book values that are reliably value-relevant for investors.
- Brands and trademarks are significantly associated with equity market valuations.
- The future performance of technology firms is related to the strength of their patents.
- A firm's cross-industry diversification is positively related to firm valuation when a firm has substantial information-based intangible assets and vice versa.
- All else equal, a firm's liquidity declines (cost of capital rises) as unrecorded R&D assets increase, implying that outside investors are at an information disadvantage versus insiders.
- Insider stock trading gains in R&D intensive firms are significantly larger than for other firms.

Building upon this early empirical work, researchers subsequently documented the effects of intangibles in specific industries. For example, the high market-to-book ratios in the wireless communications industry were shown to be driven by radio spectrum licenses and advertising (Klock and Megna 2000). Differences in firm performance for firms with high information technology (IT) expenditures were significantly related to the alignment of IT expenditures with firms' IT capabilities (Aral and Weil 2007).

Unexpected and substantial increases in R&D expenditures were followed by positive excess shareholder returns and significantly positive long-term improvements in firms' operating performance (Eberhart, Maxwell, and Siddique 2004). The relevance and reliability of R&D capitalization was further documented in a study of stock prices for UK firms before and after the UK mandated the capitalization of development costs (Oswald, Simpson, and Zarowin 2017). Talented employees contribute to organizational capital reflected in highly efficient business processes. Significant excess shareholder returns were observed for firms with high organizational capital compared with firms with low organizational capital (Eisfeldt and Papanikolaou 2013). A related finding is that firms with high employee satisfaction generate significant excess shareholder returns (Edmans 2011). Institutional investors apparently make investment decisions with an eye on intangibles. Institutions tend to buy (sell) shares in response to positive (negative) information about firms' intangibles. And this may contribute to different returns achieved by firms categorized by book-to-market ratio (Jiang 2010).

Selling, general, and administrative (SG&A) expenditures offer a rich vein to mine for a deeper understanding of how intangibles connect to firm performance and valuation. Components of SG&A that link to future value creation were shown to increase after management was granted long-term equity incentives (Banker, Huang, and Natarajan 2011). Predictability of future earnings and shareholder returns improve through isolating those SG&A expenditures that can create future value from those that support current operations (Enache and Srivastava 2018; Ptok, Jindal, and Reinartz 2018).

In summary, there are three guideposts for investors in navigating the New Economy attuned to intangibles. First, intangibles significantly impact the performance of a wide universe of firms and are not merely restricted to firms with extraordinarily high P/E multiples, such as Amazon and Netflix. The future financial performance of firms with close-to-market P/Es, such as Merck and Walmart, is tied to intangibles. This is because in the New Economy, competitive advantage is increasingly driven by unique, hard-to-duplicate intangible assets and not tangible assets, which are commodities that can easily be duplicated by competitors.

Second, for many firms, R&D expenditures often exceed capital expenditures and using unadjusted accounting data in these instances leads to distorted track records of financial performance. Specifically, the result is unreliable levels and trends in return-on-capital metrics and a misleading picture of economic investment outlays over time.

Third, with the exception of R&D, it is exceedingly difficult for investors to estimate lives for the vast majority of intangibles and this precludes capitalizing

and amortizing. Nevertheless, investors should assess the magnitude of these outlays and their likely impact on the sustainability of any above-average future profitability.

## GAAP ACCOUNTING NOT ATTUNED TO THE NEW ECONOMY

Bill Gates noted that the classical supply and demand curves are not relevant to Microsoft because the cost to supply units does not increase with higher demand:

> Microsoft might spend a lot of money to develop the first unit of a new program, but every unit after that is virtually free to produce. Unlike the goods that powered our economy in the past, software is an intangible asset. And software isn't the only example: data, insurance, e-books, even movies work in similar ways (Gates 2018).

Corporate America has pivoted toward intangible assets. Yet corporate financial reporting has not changed in over 100 years. Consider that the Financial Accounting Standards Board ruled in 1974 that R&D expenditures be expensed except for acquired R&D, with a similar treatment for advertising expenditures. This makes no economic sense. "Every aspect of the financial report is adversely affected by this dated, industrial-age treatment of intangible capital," Professors Lev and Gu argued in their 2016 book, *The End of Accounting and the Path Forward for Investors and Managers*. The accounting rule makers have avoided issuing comprehensive rules, partly due to the lack of precision in estimating the amortization schedule (life) of intangible assets. The irony of the ruling's timing is that Intel's first commercially available microprocessor was invented in 1971, which set the stage for the intangible asset revolution.

A cornerstone technology has characterized each significant industrial revolution. The first industrial revolution was driven by the steam engine that massively improved productivity, transportation, and so on. The next significant innovation came with the electric motor that contributed to mass production and the like. While the steam engine and electric motor expanded humankind's physical capacity, the semiconductor invention expanded humankind's mental capacity (Vannelli and Bush 2015). As processing power increases rapidly, it facilitates information sharing and related knowledge building. The decoding of the human genome originally cost $3.8 billion over 13 years but now costs $1,000 and takes one hour, thereby enabling personalized medicine. Some argue we are in the midst of a new paradigm shift with the advent of artificial intelligence, machine learning, and the like. Time will tell, but it's undeniable that the New Economy includes a significantly higher level of intangible assets.

Another example of intangible value is a "network effect." When a network effect is present, the usefulness of a product or service increases as the number of users increases (Anand 2016). The more users of a networked product, the higher the value to the operator of the network. While physical network effects hallmarked the big winners in the Old Economy (e.g., railways, newspapers, and telephones), digital network effects dominate the New Economy. The business models of 6 of the top 10 market capitalization firms in the US stock market are rooted in digital network effects and represent $4 trillion dollars. What is less appreciated is the degree of interdependence of today's winners. Spillover is when a firm's private investment benefits other firms, which is often the case with intangibles assets. The Microsoft–Intel (WinTel) spillover effect set the stage for the proliferation of digital network effects, which are powering an incredible expansion in humankind's mental capacity. There is no Microsoft without Intel, no Google without Microsoft, and so on. Microsoft offers a striking example of being on the right side of the digital network effect.

## MICROSOFT'S HISTORY SHOWS WINNING AND LOSING IN THE NEW ECONOMY

Bill Gates and Paul Allen founded Microsoft in 1975 with the recognition that the microprocessor would enable exponential computing power to drive their business model. Their big break arrived with an order from IBM to deliver a new operating system. That operating system became the cornerstone for the company and was purchased for a mere $50,000 from Seattle Computer, which subsequently went bankrupt. Seattle Computer had the technology, but Gates and Allen understood the microprocessor paradigm shift leading to the New Economy.

Microsoft benefited from a network effect in the form of software developers, chipmakers, PC makers (such as IBM and HP), and businesses and consumers all rallying around the Windows operating system.

Windows led to higher demand for Microsoft Office with additional network benefits. Of the historical physical network effects, none were as lucrative as Microsoft.

Steve Ballmer replaced Gates as CEO in 2000 and is widely blamed for the subsequent "lost decade." Ballmer managed the company based on what worked in the past but failed to adapt when the paradigm shifted to mobile. The company was always one step behind competitors. Ballmer famously opined in 2007, "There's no chance that the iPhone is going to get any significant market share." Despite the Ballmer Era, the company remained one of the most valuable firms in the world given the durability of the Windows network effect.

Ballmer's successor Satya Nadella bluntly appraised the situation: "Microsoft's culture had been rigid. Each person had to prove to everyone that he or she was the smartest person in the room." Under the leadership of Nadella, the new culture shifted from "know it all" to "learn it all," with a renewed customer focus. Importantly, compensation moved toward leading indicators of success, such as customer consumption. Microsoft's new culture embraces a knowledge-building mindset, always seeking to challenge the prevailing assumptions, and is well suited for the New Economy. Since Nadella took the helm in 2014, Microsoft has allocated roughly $15 billion of capital per year to R&D to reenergize the software business and emerge as a leading provider of technology in the nascent cloud market. Since the shift in strategy, the stock price has tripled as the company is no longer a step behind competitors.

## CONVENTIONAL SECURITY ANALYSIS IS OBSOLETE

Today, Microsoft is the largest company in the United States by equity market capitalization. Most of its assets are not reflected on the balance sheet, including R&D, brand value, networks, and organizational capital. GAAP accounting standards are antiquated and valuation approaches keyed to GAAP earnings, such as P/E multiples, are no longer reliable guideposts. Yet a recent study of 2,000 investors revealed that 88% of them use P/E as a valuation metric (Fabozzi, Focardi, and Jonas 2017).

Amazon is another example of why conventional security analysis is obsolete. Aswath Damodaran, a professor of corporate finance and valuation at the Stern School of Business at New York University—who is often referred to as the "Dean of Valuation"—stated in a 2018 CNBC interview, "Amazon terrifies me as a company."[1] He added, "You find it overvalued, but you cannot bet against it because this is a disruption machine." Damodaran's price target was 50% lower than the stock's price at the time of the interview, using conventional thinking on valuation, even though he had a history of praising Amazon's CEO Jeff Bezos and the company's business model. However, his conventional sum-of-parts security analysis approach misses the unique value of the company's intangible assets.

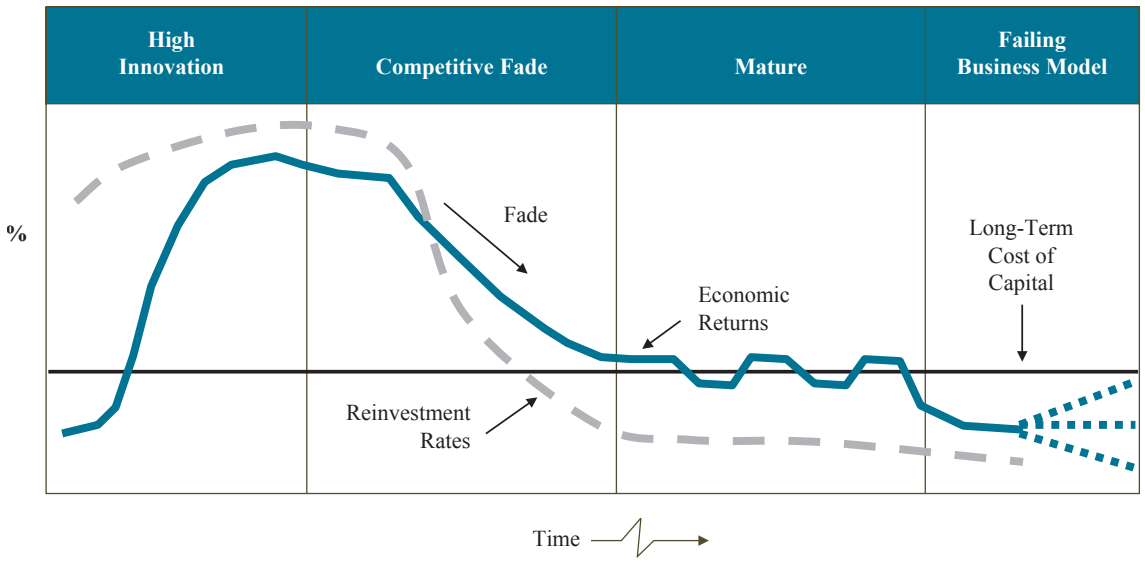
Briefly, Amazon makes extraordinarily large intangible investments, such as R&D, that will provide future benefits. But GAAP requires full expensing, which greatly depresses reported earnings, and the firm's resulting P/E becomes sky high.

Along with the P/E breakdown, rigid GAAP accounting standards have created a myriad of different accounting and valuation distortions in the New Economy. Although the International Financial Reporting Standards (IFRS) now require capitalization of the development part of R&D expense, there are many challenges ahead for IFRS and GAAP to converge on a comprehensive treatment of intangibles.

In addition, Wall Street analysts focus on short-term earnings as a template to churn out their frequent research reports. Most comprehensive sell-side initiation reports are 30 to 50 pages and organized by outcomes rather than causality. The standard sections include company overview, total addressable market, a quarterly earnings per share (EPS) template, investment concerns, valuation, and so on; and the last page contains management backgrounds cut and pasted from the company proxy. The last page is abbreviated even though it introduces the important topic of judging managerial skill and related company performance in the future. Moreover, rarely is there any discussion of a company culture with value-creating capabilities or discussion of a competitive advantage seen in winning New Economy companies, such as Microsoft and Amazon. This creates an opportunity for investors to think for themselves and deeply understand how intangible assets are driving long-term cash flows.

[1] See K. Ell, "Amazon 'Terrifies Me As A Company,' Says a Valuation Professor," CNBC.com (July 26): https://www.cnbc.com/2018/07/27/amazon-terrifies-me-as-a-company-says-dean-of-valuation.html.

## EXHIBIT 3
**Competitive Life Cycle Framework**




*Source: Madden (2016).*

### THE FIRM'S COMPETITIVE LIFE-CYCLE FRAMEWORK

To avoid short-term thinking and a myopic concern about quarterly earnings, a framework rooted in how firms perform over the long term based on the interplay of managerial skill and competition is vital. This is an economically sound approach that also agrees with business intuition.

Exhibit 3 illustrates transitional stages over a firm's life cycle. In the *high-innovation stage*, big reinvestment rates make sense with justifiable expectations for commercial success and economic returns well above the cost of capital. These value-creation opportunities attract new competitors and—at varying rates dependent upon competitive advantage—economic returns fade toward the cost of capital, and reinvestment rates fade toward economy-type growth rates.

At the *mature stage*, firms earn the cost of capital, and high reinvestment rates are justified only if management can raise economic returns above the cost of capital. When firms become heavily bureaucratic and complacent with a business-as-usual culture, their economic returns fall below the cost of capital. A fundamental restructuring of the firm is needed. Absent a major improvement, capital invested in the business is valued by the market at less than its cost.

The competitive life cycle of Exhibit 3 provides a roadmap for assessing the likely value created or dissipated due to management's capital allocation decisions.

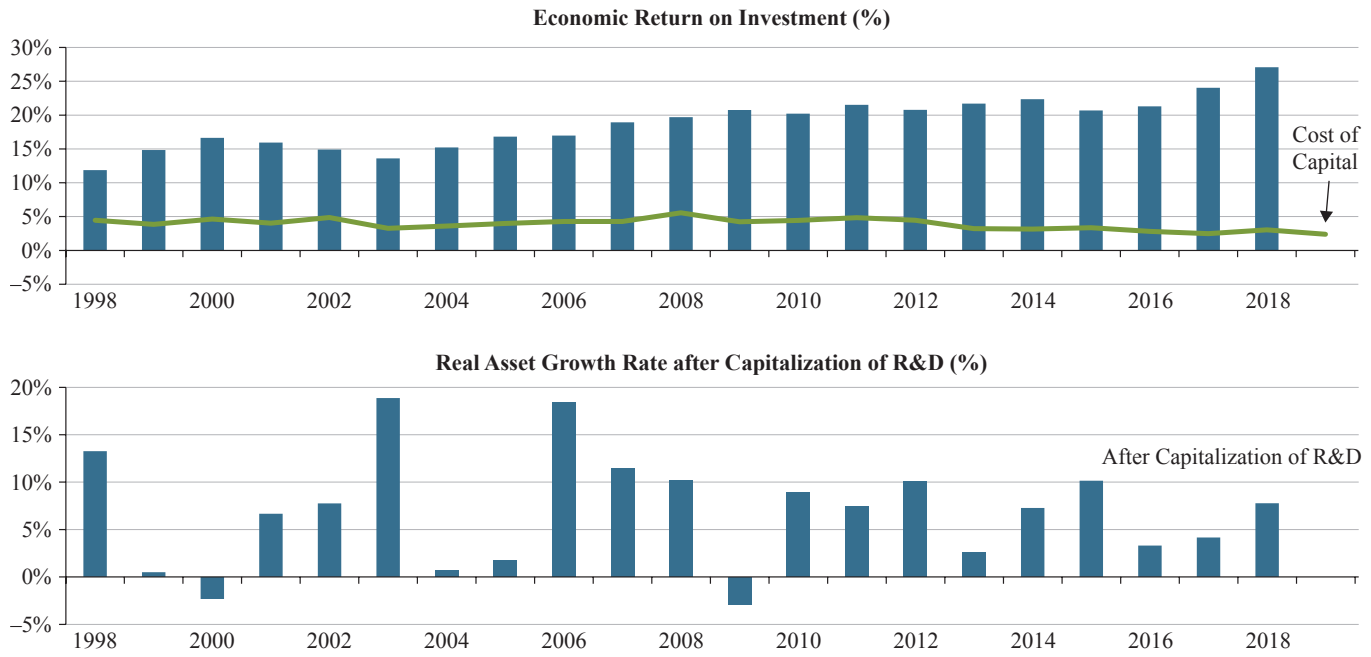
### VALUE CREATION AT IDEXX LABORATORIES

IDEXX Laboratories does not have the name recognition of Microsoft or Amazon, but it does have hard-to-value intangible assets driving value creation. IDEXX is a leading provider of testing and diagnostic services to veterinarians. Analysis of IDEXX reveals wide breadth of the firm's R&D and its unusually long economic life. For instance, instruments placed 20 years ago remain in use because they are compatible with the latest diagnostic tests. This creates high switching costs for veterinarians evidenced in the firm's 97% customer retention rate. So long as the company stays on the cutting edge of diagnostics, instrument placements and utilization will stay high, and a virtuous R&D cycle is created.

A longer R&D economic life benefits a firms' future net cash receipt, boosting a firm's market valuation. The reinvestment rates for IDEXX are substantially

## EXHIBIT 4

**Life-Cycle Track Record for IDEXX Laboratories**




*Source: RMB Asset Management global database.*

higher after the inclusion of R&D as an asset. The resulting life-cycle track record displayed in Exhibit 4 shows sustained (not fading) very high economic returns, coupled with high reinvestment rates—the ideal combination to create shareholder value.

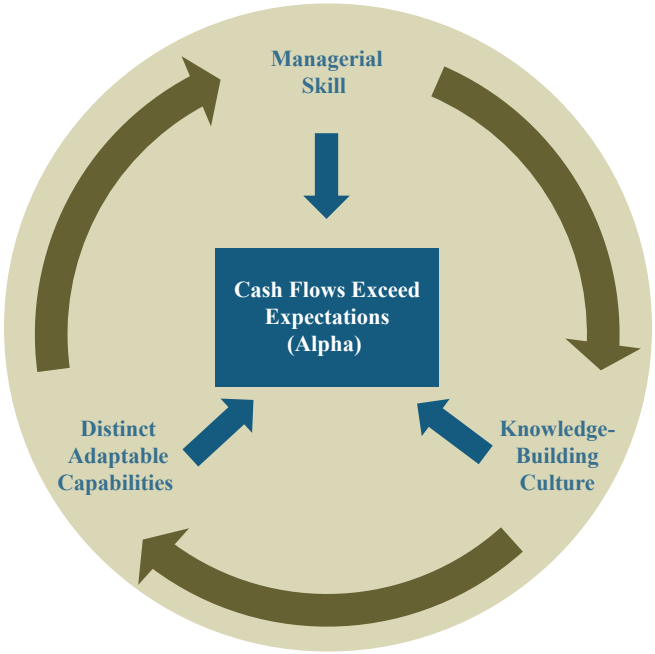
An economic-return framework minimizes accounting distortions and facilitates analysis of competitive advantage. As shown in Exhibit 4, IDEXX delivered sustained above-average profitability with high economic returns (upper panel) not fading toward the average or cost-of-capital level. Also, the firm made significant investments in its asset base (lower panel). This result exceeded investor expectations, and IDEXX outperformed the Russell 3000 fivefold from 2008 to 2018.

## ACHIEVING ALPHA IN THE NEW ECONOMY

To identify companies of high intangible value in the New Economy requires new thinking about what drives value creation in general—and alpha in particular. A useful blueprint focuses on three components: 1) managerial skill; 2) knowledge-building culture; and 3) distinct, adaptable capabilities. These components are mutually reinforcing and, over the long term, can result in cash flows that exceed investor expectations, thereby generating alpha as summarized in Exhibit 5.

The alpha drivers shown in Exhibit 5 have important implications for stock selection and portfolio construction. "Do you bet on the jockey or the horse?" is a common question among investors. Choosing just one depends on context. On the one hand, in the private market for an early-stage startup, there is only the jockey. On the other hand, for an established, regulated utility firm with long-lived assets, the horse becomes more important. Benjamin Graham emphasized quantitative business analysis and rarely met with management, which was adequate for his investment style in the Old Economy. His disciple, Warren Buffett, has many aphorisms regarding the importance of betting on the right horse, such as, "I try to buy stock in businesses that are so wonderful that an idiot can run them. Because sooner or later, one will." But the reality of the New Economy is that the business risk–reward profile has widened due to intangible assets. Unlike tangible assets, intangibles tend to represent sunk costs,

**EXHIBIT 5**
**Drivers of Alpha**




making the investment stakes higher. For example, with a $10 million software development failure, there is no recouping your capital. However, with the same investment in a factory, there will be a salvage value if the venture fails. Consequently, a low-quality, "idiot" management is one step away from bankruptcy. The stakes are not only higher, but the pace of change is faster as the life for intangibles is shorter than long-lived traditional assets (e.g., think new software vs. a manufacturing plant). Given this context, a premium needs to be placed on high managerial skills to help businesses adapt to a more competitive and faster-paced global business environment.

"Culture eats strategy for breakfast" is a quip attributed to the late management guru Peter Drucker, who was in the minority when he first emphasized the importance of aligning business strategy with culture. The majority of managements now give lip service to culture. Of the S&P 500 companies' web pages, 85% have a section dedicated to "corporate culture," and the value most cited is innovation (mentioned by 80% of them), followed by integrity and respect (70%) (Guiso, Sapienza, and Zingales 2015). It goes without saying that honesty and candor are immutable dimensions of any healthy organization. There is an opportunity to go beyond the lip service afforded to corporate culture. Successful leadership in the New Economy fosters a culture that anticipates and adapts to change—a knowledge-building culture. Investors need to assess corporate culture DNA, and that requires a thoughtful qualitative process.

The "competitive moat" was coined by Warren Buffet to describe an advantage that one company has over other companies in the same industry. The metaphor provokes an image of safety, but it can also lead to complacency and business as usual with a belief that what worked well in the past will continue to do well in the future. For instance, IBM was perfectly positioned to lead the PC era but gave the keys to the kingdom to Microsoft as management did not appreciate the massive potential for a zero-marginal-cost business model. This thinking exists today and is a symptom of not understanding the paradigm shift to more scalable and durable business models. An outcome of high managerial skill and a knowledge-building culture is not a static "competitive moat" or "sustainable" advantage—it is *adaptability to change anchored in a firm's knowledge-building proficiency.*

Insights about managerial skill, culture, and capabilities are often hard to achieve but sometimes easy. For example, Jeff Bezos' annual shareholder letters are hugely insightful. His 2005 letter details Amazon's business strategy:

> Our judgment is that relentlessly returning efficiency improvements and scale economies to customers in the form of lower prices create a virtuous cycle that leads over the long term to a much larger dollar amount of free cash flow, and thereby to a much more valuable Amazon.com. We have made similar judgments around Free Super Saver Shipping and Amazon Prime, both of which are expensive in the short term and—we believe—important and valuable in the long term.[2]

[2] Bezos' 2005 Letter to Shareholders is available online at https://ir.aboutamazon.com/annual-reports (included with the 2006 materials).

Potential new competitors face an upfront investment of billions of dollars at breakeven or below for over a decade. Amazon is now in the enviable position to strategically turn on the profitability switch in certain portions of their business, while potential competitors face formidable challenges. The typical sell-side EPS lens to analyze Amazon has been dead wrong and ill-equipped to measure economic performance and long-term value creation for high intangible asset companies like Amazon.

Converting a deep analysis of intangible assets into economic reality and warranted market valuation is where thoughtful investors can gain an alpha advantage. Although some sophisticated investors realize the importance of an analytical process for intangibles, they often use an overly simplistic approach, such as capitalizing R&D at a standard project life for entire classes of companies.

However, each company is its own puzzle to be solved. Take R&D, for example. What is the break out between "research" and "development"? What is the asset life of the research versus the development? Who are the R&D leaders at the organization? What are their incentives? Has R&D spending been sustained during economic downturns? Is it appropriate to capitalize 100% of R&D "GAAP expense" in the form of an economic investment? Are a firm's R&D or advertising outlays mandatory to just maintain their competitive position or the path to growth and profitability? The power of a value creation framework rooted in economic reality is in the questions it forces one to ask—and then answer.

In the New Economy, intangible assets dominate value creation. Many firms on the wrong side of digital network effects are headed to the graveyard, regardless of past business success. In this new environment favoring knowledge building and human capital, GAAP accounting remains rooted to the Old Economy of physical assets. And many investors still analyze firms using obsolete accounting metrics. There is an opportunity to innovate a new alpha playbook. Step one in generating alpha is to produce genuine insights into the managerial skill, culture, and distinct, adaptable capabilities of a company and translate this to warranted market valuation. Step two is to ideally allow the portfolio to be concentrated and unconstrained by size, sector, and style to maximize intangible asset insights wherever they are found. Step three is to embrace a long-term ownership mindset, that is, be mindful that management's planting of intangible assets seeds and nurturing an adaptable business model requires a long-term vision.

## REFERENCES


Anand, B. *The Content Trap: A Strategist's Guide to Digital Change*. New York: Random House Publishing Group. 2016.

Aral, S., and P. Weil. 2007. "IT Assets, Organizational Capabilities, and Firm Performance: How Resource Allocations and Organizational Differences Explain Performance Variation." *Organization Science* 18 (5): 763–780.

Banker, R., R. Huang, and R. Natarajan. 2011. "Equity Incentives and Long-Term Value Created by SG&A Expenditures." *Contemporary Accounting Research* 28 (3): 794–830.

Corrado, C., and C. Hulten. 2010. "How Do You Measure a 'Technological Revolution'?" *American Economic Review* 100 (2): 99–104.

Crouzet, N., and J. Eberly. 2018. "Understanding Weak Capital Investment: The Role of Market Concentration and Intangibles." Federal Reserve Bank of Kansas City, prepared for the Jackson Hole Economic Policy Symposium (August 23–25).

Eberhart, A. C., W. F. Maxwell, and A. R. Siddique. 2004. "An Examination of Long-Term Abnormal Stock Returns and Operating Performance following R&D Increases." *The Journal of Finance* 59 (2): 623–650.

Edmans, A., 2011. "Does the Stock Market Fully Value Intangibles? Employer Satisfaction and Equity Prices." *Journal of Financial Economics* 101 (3): 621–640.

Eisfeldt, A. L., and D. Papanikolaou. 2013. "Organization Capital and the Cross-Section of Expected Returns." *The Journal of Finance* 68 (4): 1365–1406.

Enache, L., and A. Srivastava. 2018. "Should Intangible Investments be Reported Separately or Commingled with Operating Expenses? New Evidence." *Management Science* 64 (7): 2973–3468.

Fabozzi, F. J., S. M. Focardi, and C. Jonas. *Equity Valuation: Science, Art, or Craft?* Charlottesville, VA: CFA Institute Research Foundation. 2017.

Gates, B. 2018. "Not Enough People Are Paying Attention to This Economic Trend." *Gates Notes* (August 14): https://www.gatesnotes.com/Books/Capitalism-Without-Capital.

Gu, F., and B. Lev. 2017. "Time to Change Your Investment Model." *Financial Analysts Journal* 73 (4): 23–33.

Guiso, L., P. Sapienza, and L. Zingales. 2015. "The Value of Corporate Culture." *Journal of Financial Economics* 117 (1): 60–76.

Hand, J., and B. Lev, eds. *Intangible Assets: Values, Measures, and Risks*, 1st edition. Oxford University Press. 2003.

Haskel, J., and S. Westlake. *Capitalism without Capital: The Risk of the Intangible Economy*. New Jersey: Princeton University Press. 2018.

Jiang, H. 2010. "Institutional Investors, Intangible Information, and the Book-to-Market Effect." *Journal of Financial Economics* 96 (1): 98–126.

Klock, M., and P. Megna. 2000. "Measuring and Valuing Intangible Capital in the Wireless Communications Industry." *Quarterly Review of Economics and Finance* 40 (4): 519–532.

Lev, B. 2018a. "Ending the Accounting-for-Intangibles Status Quo." *European Accounting Review* (October 9): https://doi.org/10.1080/09638180.2018.1521614.

——. 2018b. "Scrap Quarterly Reporting." *Lev End of Accounting Blog* (September 1): https://levtheendofaccountingblog.wordpress.com/2018/09/01/09-01-18-new-scrap-quarterly-reporting/.

——. 2019. Here We Go Again: "Beware of Short-Term Investors." Lev End of Accounting Blog (September 26): https://levtheendofaccountingblog.wordpress.com/2019/01/26/01-26-19-new-here-we-go-again-beware-of-short-term-investors/.

Lev, B., and F. Gu. *The End of Accounting and the Path Forward for Investors and Managers*. Wiley Finance. 2016.

Lev, B., B. Sarath, and T. Sougiannis. 2005. "R&D Reporting Biases and Their Consequences." *Contemporary Accounting Research* 22 (4): 977–1026.

Loughran, T., and B. McDonald. 2017. "The Use of EDGAR Filings by Investors." *Journal of Behavioral Finance* 18 (2): 231–248.

Madden, B. J. *Value Creation Thinking*. Illinois: Learning-WhatWorks Inc. 2016.

Oswald, D. R., A. V. Simpson, and P. Zarowin. 2017. "The Information Benefits of R&D Capitalization." Working paper.

Ptok, A., R. P. Jindal, and W. Reinartz. 2018. "Selling, General, and Administrative (SG&A) Expense-Based Metrics in Marketing: Conceptual and Measurement Challenges." *Journal of Academy of Marketing Science* 46 (6): 987–1011.

Vannelli, S., and E. Bush. 2015. "The Knowledge Effect: Excess Returns of Highly Innovative Companies." GaveKal Capital (May 8).

Wyatt, A. 2008. "What Financial and Non-Financial Information on Intangibles Is Value Relevant? A Review of the Evidence." *Accounting and Business Research* 38 (3): 217–256.



## ADDITIONAL READING

### Alice's Adventures in Factorland: *Three Blunders That Plague Factor Investing*

**Rob Arnott, Campbell R. Harvey, Vitali Kalesnik, and Juhani Linnainmaa**

*The Journal of Portfolio Management*
**https://jpm.pm-research.com/content/45/4/18**

**ABSTRACT:** *Factor investing has failed to live up to its many promises. Its success is compromised by three problems that are often underappreciated by investors. First, many investors develop exaggerated expectations about factor performance as a result of data mining, crowding, unrealistic trading cost expectations, and other concerns. Second, for investors using naive risk management tools, factor returns can experience downside shocks far larger than would be expected. Finally, investors are often led to believe their factor portfolio is diversified. Diversification can vanish, however, in certain economic conditions when factor returns become much more correlated. Factor investing is a powerful tool, but understanding the risks involved is essential before adopting this investment framework.*

## P/E Ratios, Risk Premiums, and the g* Adjustment

Martin L. Leibowitz, Stanley Kogelman, and Anthony Bova

*The Journal of Portfolio Management*
**https://jpm.pm-research.com/content/45/4/119**

**ABSTRACT:** *This article addresses a fundamental market paradox about the role of growth in equity return forecasts. The natural starting point for any theoretical return projection is the sum of the dividend yield (DY) and earnings growth. In practice, however, this simple two-term formulation (based on a stable price-to-earnings ratio [P/E] assumption) is difficult to implement because long-term earnings growth is hard to estimate. Alternatively, many practitioners adopt the more readily observable earnings yield (EY) as a one-term equity return estimate. Unfortunately, EY alone tends to understate returns because it does not properly account for the impact of higher growth levels. In many typical cases, this understatement can be quite significant. To "true up" the EY to be consistent with the DY-based expression, an adjusted-growth term g* must be added to the EY. This g* term turns out to play a number of important roles in equity analysis. In general, g* represents the potential future earnings from value-adding investments derived from a firm's patents, licenses, branding, market penetration, pricing power, and so on. Ultimately, the total present value of these opportunities—that is, the franchise value—is the source of premium P/Es and positive g* values. In addition to contributing to consistent going-forward estimates, the g* framework sheds light on a number of other facets of equity growth that can lead to premium P/Es.*

## King of the Mountain: *The Shiller P/E and Macroeconomic Conditions*

Robert D. Arnott, Denis B. Chaves, and Tzee-man Chow

*The Journal of Portfolio Management*
**https://jpm.pm-research.com/content/44/1/55**

**ABSTRACT:** *Because of mean reversion, the Shiller cyclically adjusted price/earnings (P/E) ratio is a powerful predictor of long-horizon capital market returns. Like other valuation metrics, however, it is a poor predictor of short-term returns. The authors find that this is because the "normal" level of the Shiller P/E ratio varies with economic conditions. Other researchers have shown that while periods of moderate real interest rates allow higher market valuations, P/Es tend to fall when real rates are high or low. The present authors show a similar linkage between P/Es and inflation. Moderate, rather than rock-bottom, levels of inflation and real interest rates are associated with the highest valuation multiples, creating a valuation "mountain." The authors also extend these findings to international developed markets. They further demonstrate that the P/E ratio becomes a statistically significant and economically meaningful predictor of shorter-term returns under the assumption that P/Es mean-revert toward the levels suggested by prevailing macroeconomic conditions rather than toward long-term averages.*