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The new value imperative for privately held companies: The why, what, and how of value management strategy

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Abstract This discussion describes the why, what, and how of managing for value in privately held companies. Public companies continue to manage for value, a trend that is now pushing its way inexorably into privately held companies. First, we discuss the dynamics that are creating a value-management imperative for these companies. Second, we provide a signaling model to assist management of privately held companies in deciding whether to emphasize (a) revenue growth, (b) the spread between return on invested capital and the weighted average cost of capital, (c) reduction in the cost of capital, or (d) some combination of these three. The key-value-driver model provides guidance in addressing questions such as: Do we have the right to grow? Should we improve profit performance before we grow? What is our performance in relation to our cost of capital? We also describe how to acquire the data necessary to use the model. Third, we present some important but under-utilized tools based upon transactions cost and strategic cost management theories to assist executives in managing for value and discuss when to apply these tools within a strategic context.

1. The rise of value management

The past decade has seen a tremendous emphasis on value creation by publicly traded companies. Economic value added and shareholder value added have become common terms in the popular financial press and the corporate finance literature. There has been a growing awareness in the investment community that a narrow focus on earnings per share (EPS) and earnings growth is inadequate to assure investors of returns commensurate with the risk of investments. Instead, return on invested capital (ROIC) is being compared to a company's cost of capital to determine whether

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value is being created, maintained, or destroyed by companies. This awareness extends to an understanding that the growth rate of future free cash flow (FCF)—defined as net operating profit less net investments—is a major determinant of stock performance.

Public companies such as Graco and John Deere among many have committed themselves to managing for value, and have recognized the need to maintain or increase top-line growth and manage their cost of capital in order to achieve a FCF growth that will deliver superior performance. This often means expanding product lines within core competencies, finding new markets for existing products, creating new avenues to cost reduction, redeploying assets, and growing revenues through synergistic acquisitions. Although managing for value has been embraced by many public companies for some time, the trend is now pushing its way into privately held companies.

This study has three purposes. First, we examine why managing for value has become an imperative in many privately held companies, and the ways in which the aforementioned trends are giving rise to this imperative. Second, we offer a diagnostic signaling model—the key-value-driver model—to assist management in ascertaining when top-line-growth, operating-cost-reduction, or capital-cost-reduction strategies are most appropriate and when they are contraindicated. Third, using transaction cost theory and the strategic cost management paradigm as a foundation, we discuss some of the tools available to assist managers who engage in a value-management strategy.

2. Why managing for value is becoming imperative for many privately held companies

It is important to recognize that the imperative of managing for value in many privately held companies has arisen as a result of several trends that include (a) hypercompetition and an attendant decline in the effectiveness of general strategies over time, (b) the ascendancy of a very robust private equity investment market and a concomitant fracturing of U.S. business, and (c) the rise of communications technologies and virtual markets that permit radical value chain reconfigurations and contribute to strategic uncertainty and product market instability. Understanding these trends, and the ways in which they influence value, is essential to understanding why managing for value has become imperative for many privately held companies.

2.1. Hypercompetition and the decline in general strategy effectiveness over time

A hypercompetitive environment is characterized by hyperturbulence (McCann & Selsky, 1987), high velocity (Eisenhardt, 1989), organizational vulnerabilities, strategy fragility, and technological shocks. Bogner and Barr (2000, p. 212) note that hypercompetition embodies "rapidly escalating levels of competition and reduced periods of competitive advantage for firms." Thomas' (1996) findings indicate that the performance of individual companies becomes more polarized in hypercompetitive situations with bigger winners and losers. Wiggins and Ruefli (2005, p. 887) find support for competitive advantages becoming more difficult to maintain over time across various industries, and further evidence that such advantages are increasingly a matter of a sequence of temporary strategic advantages "concatenating over time." D'Aveni (1994) suggests that hypercompetition may be here to stay. In hypercompetitive environments, successful companies form more alliances and engage in more rivalrous behaviors, and strategies are less static, instead moving toward Schumpeterian (Schumpeter, 1934) competition focused on creative destruction resulting from technological change (Ilinitch, D'Aveni, & Lewin, 1996). Importantly, successful hypercompetitive companies typically become more efficient in their use of resources (Bogner & Barr, 2000).

2.2. Ascendancy of private equity groups and the fracturing of U.S. business

The ascendancy of a very robust private equity investment market (Johnson, 2006) has shortened investment time horizons, and placed more emphasis on liquidity events wherein private equity group (PEG) investors hope to achieve much of the high return they expect from sale or public offering. PEGs are said to now possess "bulging war chests" for acquisition of both public and privately held companies (Thornton, 2007, p. 76), and PEG acquisition deal volume reached approximately $650 billion in 2006 (*Forbes*, 2006). Looking for some of their investments to be home runs, PEGs are generally willing to accept more risks than strategic buyers because they are more diversified (Varchaver, 2007), and with these higher risks come expectations of higher returns. Most PEGs have three goals: to increase FCF through increased growth, to hit or exceed a target return on invested capital, and to exit an investment within 5 to 7 years (Johnson, 2006).

Also, U.S. business is fracturing in the face of changing interaction costs and new transaction economics (Hagel & Singer, 2000). Pure-play companies are often more attractive than diversified businesses (Varchaver, 2007) because the value of their transaction sets becomes more evident. In simple terms, fracturing means businesses are broken into component parts in an effort to derive greater value that can be derived operating the businesses as a whole. PEGs are contributing to this trend by identifying, obtaining control of, and breaking up companies where the whole is less than the sum of the parts. Managers of companies in which PEG owners expect to realize returns from future liquidity events are likely to experience intense pressure to create value because these investors often have high expectations for returns over reasonably definite time horizons.

2.3. The rise of communications technologies and virtual markets

Long-run changes in communications technologies and virtual marketing have revolutionized the manner in which many companies operate (Dunbar & Starbuck, 2006). Daft and Lewin (1993) note that computer-mediated communication has become pervasive in many companies, and e-commerce has created a vast, new potential for wealth creation (Amit & Zott, 2001). At the same time, e-commerce has introduced additional uncertainty into business strategy choice with Wall Street sometimes valuing revenue growth more than current earnings (Ricadela, 2007).

More frequently in this new virtual environment, strategies aimed at increasing sales often diminish in effectiveness over time due, in part, to the marginal benefits of transactions declining while marginal costs remain more or less constant (Filson, 2004). For example, price reductions are more quickly and easily matched in virtual environments, but not easily reversed. Rossignoli, Cordella, and Lapo (2006) argue that strategic configurations are often temporary, and intended to defend specific economic interests in this new technological environment.

In such chaotic, fluid business conditions it is also common for companies to not know how customers value products and services, and questions arise as to whether strategies of improving existing lines or redeployment of capital to other lines may prove most efficacious (Filson, 2004). Amit and Zott (2001) find that one of the keys to value creation in e-commerce is transaction efficiency, and that locking in business through various means whereby customers are encouraged to engage in repeat transactions becomes critical.

2.4. Implications for privately held companies

Many privately held companies are being ushered into a new competitive environment in which successful companies undergo continuous change (Daft & Lewin, 1993), and a strategic focus on value management is becoming imperative. Careful design of business strategy and models is paramount for success in hypercompetitive environments accompanied by the demands of private equity and looming liquidity events, business fracturing, and virtual markets. Companies are sometimes called upon to spontaneously reconfigure themselves in ways that require integration, differentiation, or fragmentation (Aupperle, 1996), and to be nimble in product innovation. One implication that emerges from the confluence of these trends is that carefully designing and controlling transactions is a key in creating value. Shorter-term transaction relations and more frequent changes of transaction partners (Richter & Lindstadt, 2004) suggest the need for timely financial performance signals. Managers of privately held companies often need to be just as attuned to signals that indicate the most promising roads to value creation as their publicly traded counterparts, or risk declining returns. In the following section we describe a model that assists in signaling preferred strategic choices.

3. A model that helps signal preferred strategic choices

The preceding discussion argues that most privately held company owners should manage for value with the intention of creating value in some ultimate sense. Yet, Slee (2007) notes 75% of owners of private businesses are not increasing the value of their firms. This section of the paper presents a model for management to use in setting a strategic course that generates value. Managing for value within our context pertains to a strategic focus on emphasizing increases in the value of the company expressed as the net present value (NPV) of future FCF to the equity investors.

Management can maximize FCF by pulling the right strategic lever at the right time. Maximizing the NPV of FCF may be accomplished by using a strategy that emphasizes growth in revenues, the spread between ROIC and WACC (weighted

average cost of capital), or a combination of both. Often the peculiar circumstances of privately held companies, however—particularly differences in investor expectations and time horizons—imply a greater degree of conflict between top-line growth and short-to-intermediate term value maximization through ROIC-WACC spread management. Under varying financial and market conditions, either strategy or a combination of both may be appropriate, and it is important to understand when conditions suggest one strategy over another.

3.1. Key financial levers

Four basic financial levers are especially pertinent in managing for value. They are net operating profits less adjusted taxes (NOPLAT), ROIC, WACC, and growth (g). As standalone measures they provide limited insight into managing for value, but when combined in the key-value-driver model they provide a powerful set of levers for value creation. This section of the paper defines these levers, and uses examples to show how they can signal the potential differential value improvement that accompanies alternative strategies.

NOPLAT, or net operating profits less adjusted taxes, is a primary business valuation financial measure. A practical way to think about NOPLAT is that it provides a signal about a business unit's core operating performance in dollars (Koller, Goedhart, & Wessels, 2005). ROIC, or return on invested capital, represents the earnings for each dollar invested in the business. Two businesses in the same industry may have equal earnings, but one business structure may require a greater investment in fixed resources than the other to generate the same earnings. For example, assume NOPLAT for both Companies A and B is $100 each. Company A requires $1,000 of invested capital to sustain NOPLAT of $100 whereas Company B requires $2,000 of invested capital. The value of company A is greater on a relative investment basis than the value of company B because A is generating a 10% ROIC and B is generating a 5% ROIC. In other words, Company A requires only half as much invested capital to earn the same NOPLAT as Company B.

The value of a company does not rest on earnings alone. Risk is also especially important because value creation is a function of setting strategy in a highly unpredictable environment where uncertainty and risk are synonymous (Eccles, Herz, Keegan, & Phillips, 2001), and high future returns do not automatically translate into great value because of the attendant risks (Boulton, Libert, & Samek, 2000). A key component of value then is the cost of contributed capital, often termed WACC, or the weighted average cost of capital, in which the cost of debt and equity are weighted by their respective market values to capture risk. In computing WACC, the cost of debt for private companies is the interest rate charged for using money supplied by lenders less the tax savings on the interest expense associated with the debt. The market value for debt is most often simply the current principal balance outstanding. Estimating the cost of equity is usually more complicated for privately held companies because it comes from private sources, such as PEGS, and established prices for equity are usually unavailable (Slee, 2007). Estimating the market value of private equity can involve considerable subjectivity in estimating appropriate industry risk and adjusting this for the company-specific risks associated with the company being valued. The challenges of estimating the WACC notwithstanding, a company's value is driven, in part, by the spread between ROIC and WACC. As the spread (ROIC − WACC) increases, so does the value of a business and vice versa.

Growth to business value is akin to fuel to a jet engine. The growth variable rests upon the assumptions that:

> Revenues and $NOPLAT_{t=1}$ grow at a constant rate and the company invests the same proportion of its NOPLAT in its business each year. Investing the same proportion of NOPLAT each year also means that the company's free cash flow will grow at a constant rate. (Koller et al., 2005, pp. 61—62)

When a business is providing a ROIC that is greater than the WACC, the value of a business increases. When a business is providing a ROIC that is less than the WACC, the value of a business decreases. This difference between ROIC and WACC is sometimes referred to as economic value added.

3.2. Key-value-driver model

The key-value-driver model (Koller et al., 2005) captures the aforementioned basic financial levers for value creation. The model's basis rests with the long-standing, growing-FCF-perpetuity formula (see Brealey, Myers, & Allen, 2006) used in business valuation (see Appendix A for the formula).

Koller and colleagues articulate the development of the key-value-driver model from the free cash flow perpetuity formula. The key-driver-value model derivation is illustrated in Appendix A, with the variables defined as follows:

- $NOPLAT_{t=1}$ = net operating profits less adjusted taxes at the most recent financial reporting period
- g = $NOPLAT_{t=1}$ and cash flow rate of growth
- ROIC = $NOPLAT_{t=1}$ divided by invested capital, where invested capital = total assets less non-interest bearing short-term debt
- WACC = Weighted average cost of capital

Mass (2005) introduced the growing-FCF-perpetuity formula as a strategic tool for measuring value, and applies the formula to estimate the relative value of growth versus performance of a publicly traded business. Although a very important tool for value measurement, the growing-FCF-perpetuity formula has limitations with respect to managing for value and strategic decision making. For example, FCF may be positive or negative in any given year due to one-time factors such as one-time capital expenditures (CAPEX), and it would be misleading to use negative FCF resulting from one-time CAPEX to measure value. Further, FCF does not make explicit the tradeoff between growth and performance. As previously discussed, growing a business is appropriate only when ROIC is greater than the WACC, and the growing-FCF-perpetuity formula assumes FCF increases with improved ROIC, and the difference between WACC and ROIC—and its potential for helping to manage value—is unobservable in the formula. Lastly, FCF is not specifically defined, and numerous definitions and approaches to measuring it are suggested in the accounting and finance literature. Consequently, although the growing-FCF-perpetuity formula provides useful signals in value measurement, its decomposition into key value drivers offers greater insights when it comes to strategic decision making.

An attractive feature of the key-value-driver model is its simplicity. Only four variables are needed. These variables alone can signal to management which strategy will result in the greatest increase in a company's value. The following examples provide insight into the usefulness of the key-value-driver model.

3.3. Pulling the levers

This example shows the signaling power of each key value driver lever, and makes explicit how company value changes as management pulls one lever at a time. Assume that management of Company X has prepared the following estimates based on its current conditions: NOPLAT = $300K; g = 4%; ROIC = 9%; and WACC = 8%. The key-value-driver model shows Company X value at approximately $4,167K.

Assume the management of Company X is reassessing its strategy and determining how to allocate the valuable time of its knowledge-based workforce and tangible assets. Three assumed-to-be-mutually-exclusive initiatives are being considered: to improve NOPLAT and ROIC through cost controls, to attempt to grow revenues and share of the market (SOM) through new marketing initiatives, or to decrease WACC by changing the debt/equity mix. Management can observe the estimated potential wealth creation that results from pulling one lever at a time, as shown in Table 1 where growth rate, ROIC, and WACC are each changed by 1%. Decreasing WACC from 8% to 7% provides the greatest increase to company value to approximately $5,556K. The reason that reduction of WACC provides the greatest value increase in this example rests with the magnitude of the ROIC-WACC spread, further explained in the next subsection.

3.4. Has your company earned the right to grow?

Despite the focus on growth in many companies, growing when ROIC is less than WACC destroys value. Returning to Company X and the strategy meeting, assume the management of Company X has prepared the same initial estimates as before. Has Company X

Table 1. Company X demonstration

Estimated value of Company X with the key value driver variables set at:	Value Company X with a 1% change in:		
	g	ROIC	WACC
• NOPLAT = $300 • g = 4% • ROIC = 9%; • WACC = 8%	increase to 5%	increase to 10%	decrease to 7%
$4,167K	$4,444K	$4,500K	$5,556K

earned the right to grow? In this case the answer is yes because estimated ROIC is greater than WACC. Another question should be asked, however. What happens to the value of Company X if it fails to sustain a 4% growth rate? In the competitive business environment discussed earlier in this paper, this is a very realistic question. For example, price reductions that lead to revenue growth and increased SOM may be eventually met by competition, causing the growth rate to decline. Dropping the growth rate to 2% decreases the company's value to approximately $3,889K.

Why does the change in growth have such a small change in the overall estimate of Company X's valuation? The answer rests in the spread between ROIC and WACC. The spread is very small at 1% (ROIC at 10% - WACC at 9%). When the spread is small, growth has a limited impact on overall valuation. As the spread between ROIC and the WACC increases, the impact of growth has a greater impact on increasing company valuation. This is why g is akin to fuel in a jet engine.

Modifying the example to show how growing Company X at the wrong time can destroy wealth, assume that management of Company X has prepared the following estimates based on its current conditions: NOPLAT = $300K; g = 4%; ROIC = 6%; and WACC = 8%. The key-value-driver model shows Company X value at approximately $2,500K. Further, assume a group of Company X managers is arguing for a growth rate of 5% as a means to generate value. The key-value-driver model shows this decision would destroy value because the value of Company X declines to approximately $1,667K.

3.5. Synergy and flying with radar

This example points to the synergies of business and the key-value-driver model. A clear understanding of the relationship among the model variables is prerequisite for managing a privately held business for value. Without this understanding, formulating business strategy for impact on company value is analogous to flying in clouds without radar. The key-value-driver model and embedded variables serve like a business radar that points management in the right strategic directions.

Assume the same original data presented in our example, but relax the assumption that management can pursue only one initiative at a time. The key-value-driver model shows the relative value of Company X when all three levers are pulled. For example, assume management builds a strategic focus that increases both ROIC and growth by 1% and decreases WACC by 1%. The value of Company X would increase to approximately $7,500, if all initiatives are successful. Conversely, the model can be used to determine the damage from a perfect storm, meaning to determine the effects of worst-case scenarios.

3.6. Obtaining the necessary data and using the model

Despite the potential utility of the key-value-driver model to set business strategy and estimate the potential for value creation, its application to privately held companies has been limited until recently by data availability. Although NOPLAT and ROIC could easily be obtained from financial statements, estimating growth and weighted average cost of capital presented significant challenges. Now, with the advance of web technology and competition, privately held company management can often obtain the data necessary to use the key-value-driver model in guiding strategy. See Appendix B for specific guidance on how to obtain the data necessary to use the formula and the steps involved in using the signaling model.

3.7. Some limitations

All signaling mechanisms have limitations, and the key-value-driver model is no different. The model assumes a steady-state condition, and this is often not the case in practice. Business environments are characterized by dynamism as opportunity sets, costs, and resource inputs change more or less continuously, making changing environmental conditions important moderators of the relationship between strategy and performance (McArthur & Nystrom, 1991). Early on, Schumpeter (1934) recognized that extraordinary rents from business innovations could be earned for only so long as markets matured. Growth rates in FCF have a tendency over time to slow due to market saturation in what has been called the business deceleration hypothesis. As a result, improving the growth rate of FCF or achieving a ROIC above industry average can challenge the best management teams. Market cycles can result in change in the WACC as interest rates change or demand for products vacillates. Such dynamics can disrupt the financial basis of a previously embraced strategy and necessitate modification. Consequently, although the key-value-driver model provides useful signals to facilitate strategic decisions, such decisions must always be made within the trends of external market forces as well as the confines of internal resources. A mechanistic fixation on any

signaling device that ignores changes in its inputs is fraught with peril.

4. Using the signals to select tools for creating value

Once a strategy is signaled by the key-value-driver model and selected by management, the next step is to select value-creation tools appropriate for implementing the chosen strategy. Given the broad spectrum of value-creation tools available, space permits consideration of only some examples that illustrate how specific model signals can be linked to specific tools. In this section we discuss transaction cost theory as a foundation for formulating a strategic response to the key-value-driver model's signals and several value-creation tools taken from the strategic cost management (SCM) paradigm that have the potential to enhance corporate performance, but which, at least in our experience, are under utilized in privately held companies. The following discussion attempts to underscore the nexus between specific model signals and specific tools, and acquaint readers unfamiliar with the SCM paradigm with some powerful tools for value creation.

4.1. Transaction cost theory

Examination of the causal factors of the new value imperative environment described in Section 2 suggests that a common thread relates to how transactions are organized and managed. Transactions can be thought of broadly as events that signify the change of an asset from one state to another (Sullivan, 2000). Amit and Zott (2001) identify transaction efficiency as a major source of value, and value creation derives from the attenuation of transaction uncertainty, complexity, and information asymmetry. Boulton et al. (2000) outline several approaches to modifying portfolios of transactions involving companies' assets to increase value that include creating new sources of value, improving efficiency and productivity, and connecting assets to other assets in transaction networks. Zott and Amit (2007) note that business strategies can create value either by generating more revenue through (a) improved economic value to the customer (EVC) via innovation that creates new markets or innovates transactions in existing markets, or (b) through improved transaction efficiencies that reduce costs. Moreover, such costs are reduced through changes that simplify transactions, reduce transaction complexity, or create linkages among various stakeholders in a business value chain. Lajili and Mahoney (2006) posit that business uncertainty and risk can be more easily managed in the new virtual-market environment through electronic rather than vertical integration, and find this consistent with transaction cost logic.

As a result, transaction cost theory offers a particularly good framework for considering value creation because of its focus on the roles of uncertainty, transaction frequency, and asset specificity, meaning the presence of transaction-specific investments (see Krickx, 1995). If other factors are held constant, changes in these factors reduce the stability of key variables in managing for value—growth, WACC, and ROIC—thereby affecting investors' risk. Consequently, how transactions are organized and controlled to create value is a critical concern in the new business environment described in Section 2.

4.2. Strategic cost management (SCM)

Pioneered by Shank and Govindarajan (1993), who drew upon the strategic management literature (for example, Porter, 1979, 1980, 1983, 1985a; Quinn, 1980, 1985), SCM may be thought of as a subset of transaction cost theory based upon the early work of luminaries such as Alchian (1959) and Williamson (1971, 1975, 1979, 1985) in that it considers transactional attributes in seeking to engineer or re-engineer transactions in ways that minimize costly exchange frictions. SCM seeks to focus upon revenue and cost management for value creation through a strategic lens by rearranging transactions using value chain analysis, strategic positioning analysis, cost driver analysis, economic value to the customer (EVC), target costing, life cycle costing, and strategic capital investment analysis among other tools (Shank & Govindarajan, 1993). Although space considerations do not permit an in-depth examination of each of these tools, the following subsections demonstrate how the signals provided by the key-value-driver model can assist in selecting the most appropriate value-creation tool(s), and describe why each tool selected is a good strategic fit given a particular signal. Stated differently, the key-value-driver model provides guidance on how to organize a company's transactions to create value.

4.3. Value chain reconfiguration

Suppose the key-value-driver model signals that an operating-cost-reduction strategy holds the greatest potential for creating value given a narrowly negative ROIC-WACC spread and low revenue growth

rate. In this case, the company has not earned the right to grow and needs to improve its spread. Companies seeking to improve their spreads can reconfigure their value chain, defined as the set of linked value-creating activities from raw material to final user (Porter, 1985b) to reduce transaction costs through improved efficiencies by focusing on four profit-improvement linkages: supplier, customer, within-business-unit, and across-business-units (Shank & Govindarajan, 1993). Value chain analysis methodology involves identifying the value chain links, assigning costs, revenues, and assets to each link, identifying the drivers that create costs within each link, and increasing value by reconfiguring the value chain and better control of the drivers.

For example, consider a privately held, life-sciences company engaged in the development and production of radioisotopes for use in Computed Axial Tomography (CAT) scanners to detect heart disease. The isotopes are produced by a process that first requires a cyclotron followed by a hot box distillation to convert radioactive materials into patient-injectable form. Hot boxes are specific to particular isotopes and are custom manufactured by the company. The isotopes have a short half-life after production and must generally be injected into patients for imaging within a few hours or less after creation. This limits the isotopes' use to hospitals that are either in close proximity to a lab with a cyclotron and distilling equipment, or which are amenable to fast air freight delivery. At present, the company is paying heavily for air delivery service to reach client hospitals. A value chain analysis that considers the alternative of licensing labs close to client hospitals with cyclotrons to manufacture the isotopes may offer a lower cost solution to air delivery. In addition to the obvious concerns of air freight versus licensing cost, such a value chain analysis would consider whether it is better to own the hot boxes and lease them to licensed labs or sell them outright, or even whether manufacture of the hot boxes should be outsourced.

4.4. Economic value to the customer (EVC) and target costing

Continuing with the previous example, suppose ROIC exceeds WACC such that growth in revenue is warranted, and the key-value-driver model indicates an increase in the growth rate of FCF provides the greatest potential for creating value. Management would like to develop new uses for radioisotopes to take advantage of its existing manufacturing and distribution structures. Suppose further that a particular radioisotope can be slightly modified such that it can be used to detect prostate cancers providing a potentially attractive alternative to invasive biopsy. Setting aside ethical and Medicare pricing issues, company management would like to know whether the isotope can be priced such that ROIC will continue to exceed WACC.

EVC directly addresses this question by comparing a proposed product to an existing reference product. EVC explicitly ignores what the proposed product will likely cost the company to produce, and instead asks how much value customers will place on the product. The EVC, less the price charged for the proposed product, less any other attendant costs, such as hospital charges, is the value proposition to the customer (Shank, 2006). In this case, the customer may place a high value on the less invasive and painful nature of radioisotope imaging with a faster turnaround time in obtaining a diagnosis as opposed to the biopsy reference product. If so, the company's product will create greater EVC than the reference product, and possibly provide some latitude for the company in pricing it higher than a biopsy. How much incremental benefit to leave for the customer is a function of margin optimization through price/volume analysis and whether the desired ROIC can be achieved, which is in turn a function of the cost of manufacturing.

In order to ascertain the proposed product's ROIC, the customer could use target costing. Target costing involves assuming the desired price, profit, and returns as givens in the product economics equation, and determining the cost to manufacture that will balance the equation. This cost then becomes the target cost the company strives to attain. If it is subsequently determined that the company cannot produce the product at that cost given the existing production economic and physical framework, then the company must decide whether to (a) take more of the incremental benefit from the customer through even higher pricing, (b) reduce manufacturing cost through the use of other tools such as value chain analysis or ABM, or (c) abandon the initiative.

4.5. Strategic positioning analysis and activity-based management (ABM)

Altering our life-sciences company example again, suppose that a competitor's new isotope is superior to one of our company's principal products, but considerably more costly to produce and somewhat higher priced. Further assume that the new competitor isotope is resulting in a falling growth rate in our company's FCF and ROIC-WACC spread, and that

the key-value-driver model indicates the greatest potential for value creation rests in improving the growth rate of FCF if the previous ROIC-WACC spread can be restored. Under these conditions a combination of strategic positioning analysis and activity-based management may be the best set of tools for implementing a new value-creation strategy.

Strategic positioning analysis attempts to formulate strategies appropriate to the positions of products in their life cycles. Competitive advantage is achieved by positioning products as differentiated, low-cost, or both. Differentiation is obtained by creating products and services that are perceived as unique by customers. Cost leadership is achieved through economies of scale, learning curve effects, tight cost controls, and cost minimization (Shank & Govindarajan, 1993). This naturally leads to the need for tools that can assist in identifying the activities that give rise to these economies and costs. ABM, together with its cost-measurement analog activity-based costing (ABC), focuses on identifying, measuring, and controlling the drivers of economies and costs.

Returning to our example, our life sciences company has been charging a premium for the subject isotope because it was the only product available that served a particular purpose. This differentiated strategy has been disrupted by the technological shock of a superior competitive product. An assessment of product capabilities, however, indicates that the competitor isotope's superiority may be unnecessary in most diagnostic situations. Consequently, to improve the growth rate in FCF and the ROIC-WACC spread from the isotope our company may wish to strategically reposition the product as a cost leader. By dropping the price of its isotope while cutting costs so a desired ROIC-WACC spread is maintained, our company can create value. For example, to achieve the necessary cost reductions to drop price and restore the desired spread it may be able to create hot boxes that are capable of producing more than one type of isotope, thereby eliminating costly bottlenecks in the distillation process.

4.6. Data availability

Historically one of the greatest impediments to using the aforementioned and other SCM tools has been obtaining data necessary to perform value chain, product positioning, and other analyses. In recent years the advent of a number of new, online databases, such as Lexis Nexis (collection of legal, news, and public records), 1st Research (industry/market data), Harris Selectory (company data), Integra (financial analysis), and eStatement Studies, that can be purchased at reasonable cost greatly facilitates the use of these tools. Although utilizing SCM tools is still not a trivial undertaking, the payoffs can be quite substantial for privately held companies willing to invest the time and effort.

5. In review

This discussion had three goals:

1. Relate why value creation has become an imperative for many privately held companies;

2. Present a model that is useful in signaling what financial strategy will likely increase value the most given a set of drivers of company performance; and

3. Provide examples of how specific signals provided by the model can be linked to specific tools for value creation using a transaction cost/SCM framework.

Macro trends are creating pressure for privately held companies to create shareholder value just as with public companies. Models and tools that were heretofore often difficult for privately held companies to use because of difficulties in obtaining data are becoming far more accessible as new sources of data continue to evolve. One model that is particularly useful for signaling appropriate financial strategies is the key-value-driver model. This model can be deployed using guidance provided in Appendix B to signal which transaction cost configuration and control strategies are likely to prove most efficacious in creating value. The signals provided by the model can be linked to specific value creation tools appropriate for the strategy, and the SCM paradigm offers a particularly promising set of such tools from which to choose.

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Appendix A. Derivation of the key-value-driver model

Linkage between growing-FCF-perpetuity formula and the key value driver model developed in Koller et al.

Growing-FCF-perpetuity formula:

$$Value = \left(\frac{FCF_{t=1}}{WACC - g}\right)$$

NOPLAT	Net operating profits less adjusted taxes.
Net investment	Increase in invested capital from one year to the next.
FCF	NOPLAT − Net investment
Invested capital	Capital invested in the business
ROIC	NOPLAT / Invested capital ROIC can be defined in two ways, as the return on all capital or as the return on new or incremental capital. We assume that both are this same.
IR	Investment rate of NOPLAT invested back into the business. Net Investment / NOPLAT
WACC	The rate of return that investors expect to earn from investing in the company and therefore the appropriate discount rate for the free cash flow.
g	Rate at which the company's NOPLAT and cash flow grows each year.

The numerator of the growing-FCF-perpetuity formula is linked to the key-value-driver as follows:

FCF	NOPLAT − Net investment: is rearranged to NOPLAT − (NOPLAT * IR): is rearranged to NOPLAT * (1 − IR)
g	ROIC * IR
IR	g / ROIC

Replace IR in − NOPLAT * (1 − IR) − with g / ROIC results in:
Key-value-driver model:

$$Value = \frac{NOPLAT_{t=1}\left(1 - \frac{g}{ROIC}\right)}{WACC - g}$$

Appendix B. A practical guide for using the key-driver-value formula

The data described below are necessary to utilize the key value driver model. Once the data are collected, they are inserted into the Excel spreadsheet titled: Value Driver Model for BH paper that can be downloaded from the following site: http://www.luc.edu/faculty/tzeller/bh.
The Key Value Driver Model is found on the worksheet titled: Key Value Driver Model. Enter data into the respective cells specified below.

- $NOPLAT_{t=1}$ = Most recent income statement (use a marginal tax to compute the tax), Cell B6, shaded green.
- ROIC = Most recent financial statements (defined in previous section), Cell D6, shaded green.
- g = It is suggested that growth be estimated based upon company experience, known business opportunities, historical industry growth, and leading economic indicators that pertain to your industry. Historical industry growth data are available from http://moneycentral.msn.com/home.asp
  - Select a publicly traded company in your industry, for example HD for Home Depot, in the Name or symbol(s) box
  - Select Print report
  - Select All and then Generate Report

    Growth data located approximately half way down the report
  - Enter growth in Cell C6, shaded green.
- WACC:[1] = A weighted average cost of capital can be estimated by completing the following formula:

$$WACC = \left(r_d(1-tr)\frac{D}{D+E}\right) + \left(r_e\frac{E}{D+E}\right)$$

  - The mechanics of this computation are found in the Excel spreadsheet, worksheet labeled WACC. Enter the respective data in the green shaded cells C16 to C22 and the WACC is computed for you. Cell H20, shaded blue.
  - r_d = Cost of debt (specified in the debt agreement), Cell C16.
  - tr = Marginal tax rate (pulled from tax return), Cell C17.
  - D = Market value of debt (typically outstanding balance of all short term and long term debt), Cell C18.
  - E = Market value of equity (estimate for private companies), Cell C22.
  - r_e = Cost of equity: The capital asset pricing model[2] (CAPM) remains as a popular method of estimating a business cost of equity. The model is as follows: Cost of equity = risk free rate + [beta (market risk − risk free rate)]. See Brealey et al. (2006) for a complete discussion. When you enter the required values in the Excel worksheet cells C19 to C21, the cost of equity is automatically computed in cell F18.
    - Risk free rate: The yield on a treasury bond with 10 years to maturity is suggested. This datum can obtained as follows:
      - Open www.money.msn.com.

[1] Brealey et al. (2006, p. 461).
[2] The capital asset pricing model is widely discussed in the finance literature. See Brealey et al. (pp. 189–199) for a complete discussion.

- Select Investing
- Select Markets
- Select Treasuries
- Cell C19.

▪ Beta: Use an industry Beta for your industry.

- http://pages.stern.nyu.edu/∼adamodar/New_Home_Page/datafile/Betas.html
- The column labeled average is the Beta to use in the model.
- Cell C20.

▪ Market risk − risk free rate = Evidence suggests the difference between the market risk and risk free rate—often discussed as the market risk premium—is declining and ranges between 3.5 and 5.6%. We suggest using 4.75% as a simple split between the evidence provided (see Graham & Harvey, 2001; Koller et al.). Cell C21

You are now ready to deploy the key-value-driver model and observe the dynamics caused by changes in the model inputs as the values of these inputs are varied.

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