

In Search of a Viable Theory of the Firm: Bridging the Gap Between Accounting Practice and Theory

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Bridging the Gap Between Accounting Practice and Theory**

ABSTRACT: We describe our search for a viable theory of the firm that bridges the gap between accounting practice and theory. First, we describe Michael Jensen's role in the development of the economic theory of the firm in accounting and his recognition of the need to develop a more viable theory later in life. Second, we describe the motivation of the co-authors to develop a pragmatic theory of the firm that captures long-term value creation using GAAP-based financial statements and incorporates shared values and social norms. Third, we demonstrate how applying practical accounting insights from the Pragmatic Theory of the Firm and the Balanced Scorecard increases the usefulness of the theory of the firm to accounting practitioners, researchers, and educators. We conclude by describing how our approach helps the accounting profession address 21st-century challenges including environmental and social issues, sustainability, and accounting for intangibles.

I. SYNOPSIS AND INSIGHTS FOR PRACTICE

The conception of a theory of the firm originated in the use of differential calculus and the marginal principle by mathematicians and economists from France, Germany, Austria, and Britain in the early 19th century. British economist Alfred Marshall (1842-1924) systemized this approach by focusing on the marginal utility of individual decision-makers in the firm under market settings characterized by perfect competition or pure monopoly (Stevens 2019). In the 20th century, the theory of the firm was advanced further by Ronald Coase (1910-2013), Oliver Williamson (1932-2020), and other neoclassical economists associated with the Chicago School including George Stigler (1911-1991) and Michael Jensen (1939-2024). In the 1970s, Jensen joined with William Meckling (1921-1998) to develop a neoclassical theory of the firm called agency theory. Through its ability to describe firm and market behavior, agency theory became the dominant economic theory of the firm in accounting (Demski and Feltham 1978, Watts and Zimmerman 1986).

In this paper, we describe our search for a viable theory of the firm that bridges the gap between accounting practice and theory. Most accounting researchers are trained in Jensen's agency theory and have little practical experience using the financial statements to manage firms or to connect financial performance to market valuations. Most accounting practitioners, on the other hand, are unaware of the dominant economic theory of the firm in accounting. Finally, few accounting researchers and practitioners are aware of Jensen's efforts later in life to revise his theory of the firm by incorporating integrity and stakeholder perspectives. Therefore, we begin by summarizing the development of agency theory using our tribute to the main architect of that theory (Madden and Stevens 2024). Throughout the rest of the paper, we demonstrate how applying practical accounting insights from the Pragmatic Theory of the Firm and the Balanced Scorecard increases the usefulness of accounting theory to accounting practitioners, theorists, and

educators. We conclude by describing how our approach helps the accounting professions address 21st-century challenges including environmental and social issues, sustainability, and accounting for intangibles.

II. THE DEVELOPMENT OF AGENCY THEORY

Michael Jensen's seminal paper with William Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure" (Jensen and Meckling 1976), presented a new theory of the firm which characterized the firm as a "nexus of contracts." Accounting researchers have found the theory useful for predicting relations between information, incentives, and behavior (Lambert 2001). The theory provides few insights, however, regarding informal controls found in practice based on commitment, responsibility, and trust (Mayer 2013) or address the increasing importance of values and norms in helping corporations create value (Graham et al. 2022). Further, a multi-disciplinary program exploring the future of the corporation has concluded that the purpose of the corporation in the 21st century is *to create profitable solutions for the problems of people and planet, while not profiting from creating problems for either* (British Academy 2018, 2021). Thus, there is a large gap between the economic theory of the firm in accounting and corporate governance systems and management controls found in practice (Stevens 2024a).

In our tribute to Jensen following his death in April 2024, we emphasize his contributions to the theory of the firm and his changing views over his illustrious career (Madden and Stevens 2024). We identify three different periods or "Acts" where Jensen took up differing views regarding corporate governance and management control. While Jensen began his career as a strong advocate of the corporation as a driver of innovation and growth in the economy (Act 1), he took a 180-degree turn regarding the public corporation following the economic stagnation and rampant inflation of the 1970s (Cheffins 2024). During this period (Act 2), Jensen blamed the

economic stagnation of the period on top management's opportunistic pursuit of growth and diversification. He came to doubt the effectiveness of corporate governance and management control and looked increasingly to powerful economic incentives and the market for corporate control to motivate managers to act in the best interest of shareholders.

Jensen's doubts regarding the effectiveness of corporate governance and management control are reflected in a detailed review of agency theory published in 2000: "A Theory of the Firm: Governance, Residual Claims, and Organizational Forms" (Jensen 2000). Jensen's review includes a spirited defense of agency theory and a frontal attack on Edward Freeman's (1984) stakeholder theory, which emphasizes the firm's obligation to create value for all its stakeholders including employees, suppliers, and communities as well as investors. Jensen's review also includes a passionate argument for the revival of an active market for corporate control: "The takeover boom of the 1980s brought the subject of corporate governance to the front pages of newspapers as a revolution was mounted against the power complexes at corporate headquarters. The mergers, acquisitions, leveraged buyouts (LBOs), and other leveraged restructuring of the 1980s constituted an assault on entrenched authority that was long overdue" (Jensen 2000, 9). Jensen concludes that corporate governance and management control failed to provide the same discipline and productivity as the market for corporate control.

In his detailed review of agency theory, however, Jensen (2000, 59-60) challenges researchers to develop a more viable theory of the firm:

(W)e have to understand even better than we do now the factors leading to organizational failures (and successes): we have to break open the black box called the "firm," and this means understanding how organizations and the people in them work. In short, we are facing the problem of developing a viable theory of organizations. To be successful we must continue to broaden our thinking to new topics and to learn and develop new analytical tools.

Jensen answered his own call to develop a more viable theory of the firm in his final act (Act 3). The paucity of coverage given to Jensen's research efforts after 2000 (they aren't even mentioned on his Wikipedia webpage) adds to the mystery surrounding his final views on the theory of the firm. We emphasize the third act in Jensen's career in our tribute for the following reasons: (1) prior tributes out of Chicago had ignored or shortchanged this highly productive period in Jensen's life; (2) we felt that the lack of coverage regarding this period had clouded his legacy and we wanted to set the record straight; and (3) both of us had drawn inspiration from his efforts to develop a more viable theory of the firm to bridge practice and theory.

In Jensen's final act, he switched his focus once again. Reforming markets and corporations hadn't worked, so Jensen turned his attention to reforming people (Lemann 2019). In particular, he returned to the underlying behavioral assumptions of his theory of the firm. The first public signs of a shift in Jensen's thinking appeared in 2004 when he partnered with Werner Erhard to develop a leadership course that emphasized integrity. It was not until the crisis of capitalism brought on by the global market crash of 2007-08, however, that Jensen challenged researchers to go beyond narrow self-interest and incorporate the role of values in their economic theory. He voiced this challenge in a foreword he wrote for Paul Zak's edited book, *Moral Markets: The Critical Role of Values in the Economy* (Jensen 2008, ix-x):

Economics, having traditionally focused on the positive analysis of alternative institutional structures, has far too long ignored the normative world. By the term "positive analysis," I mean, of course, the analysis of the way the world is, however it behaves, independent of any normative value judgments about its desirability or undesirability...By "normative," I mean establishing, relating to, or deriving from a standard or norm that specified desirable or undesirable conduct or behavior, that is, what ought to be...I look forward to seeing the creation of an entirely new field of inquiry in economics, and in its sister social sciences, focused deeply on the positive analysis of the role of values in evaluating the possible outcomes of human interaction.

Despite the inability of Jensen to think beyond Milton Friedman’s (1953) “positive theory,” he reached out to Ed Freeman to incorporate aspects of stakeholder theory into his theory of the firm. He and Erhard also interacted with Bart Madden to share their common interests arising from their new leadership class. After Madden came across Stevens’s (2019) book, “Social Norms and the Theory of the Firm,” the two began to collaborate in their search for a viable theory of the firm. We describe the motivation behind this collaboration next.

III. THE MOTIVATION FOR A VIABLE THEORY OF THE FIRM

Madden’s motivation to develop a viable theory of the firm emerged from the inability of the traditional theory to adequately explain long-term value creation. A deeper understanding of the value creation process was an integral part of a series of research-oriented jobs and independent research later in his career. This work experience and independent research eventually evolved into the Pragmatic Theory of the Firm explained in (Madden 2020), which became the basis for launching the Madden Center for Value Creation at Florida Atlantic University. The starting point of Madden’s search for a viable theory, therefore, was a core intellectual challenge—to better understand how firms succeed and fail in achieving long-term value creation. The research approach he applied was inductive versus the deductive approach applied by most academic theorists.

Madden’s research addressed three basic questions of interest to practitioners in accounting and finance. The first practical question came with the challenges of founding and sustaining a consulting business at Callard, Madden & Associates (founded in 1970): *How best to contribute to improved performance of our clients’ (institutional investors) stock portfolios?* In his efforts to address that question, Madden developed the life-cycle framework that included the life-cycle valuation model well suited to judging a forecast of the future with a comparison to past

performance. Life-cycle track records revealed new insights about firms' financial performance from GAAP-based financial statements not otherwise readily available. That early investment research laid the foundation for the UBS HOLT Global Database used today by most large money management firms.

Madden's early research led to a second question that was more fundamental in nature: *What is the critical determinant of a firm's long-term performance?* This led to an endless study of firms' life-cycle track records and drilling down into the details for deeper valuation insights. Madden's conclusion was that the critical determinant of value creation is the proficiency of a firm's knowledge-building culture versus competitors. In particular, knowledge-building is the source of unique strategies, capabilities, manufacturing efficiencies, etc. Moreover, knowledge building raises all sorts of new issues that required a way of thinking to facilitate the analysis of management skill in building knowledge. This, in turn, led to an appreciation of John Dewey's pragmatic approach to knowing rooted in improvement in one's experiences in dealing with problems (Madden 1991).

Digging deeper into how firms create value necessarily led to viewing the firm as a holistic system with interrelated components. This led to the third question: *How best to incorporate systems thinking into a theory of the firm?* Especially important was the specification of a four-part purpose for the firm that can defuse the never-ending debates about shareholder capitalism versus stakeholder capitalism and serve as the cornerstone for a holistic approach to a theory of the firm. Systems thinking has major implications for organizational structure, managerial controls focused on local optimization, the interrelated impacts of AI, firms' overall performance, etc. (Jackson 2019).

In addressing the above three questions, Madden had to make progress on many of the problems that face the accounting profession in the 21st century. Analysis of firms' long-term financial performance critically depends upon accounting returns, such as return-on-net-assets (RONA), that are calculated on the aggregate assets employed and can be viewed as the average of previously made incremental investments.¹ A useful starting point for a practical discussion about accounting returns is the managerial objective to *create value*, i.e., achieve rates of return on new or incremental investments (ROIs) that exceed the cost of capital. To capture this value creation, Madden calculated ROIs with expected outflows and inflows expressed in monetary units of equal purchasing power. Using inflation-adjusted ROIs (economic returns) provided a real return to compare to a real cost of capital, which was critical in time periods of significant inflation such as the 1970s.

To study the usefulness of GAAP-based financial statements as a tool to estimate firm value, Madden developed a simulation model that included the life-cycle valuation model in which a firm's long-term net cash receipts are driven by a forecast life cycle of adjusted accounting returns and reinvestment rates (Madden 1999). The key advantage of this approach is that a forecasted future life-cycle could be judged for plausibility by comparison to the firm's past life-cycle and those of competitors. Further, this approach reveals investor expectations of a future life-cycle implied in current stock prices. Throughout his use of the model, however, Madden found it essential to eliminate distortions in the levels and trends in accounting returns induced by inflation. The simulation model was driven by an inputted life-cycle of real ROIs on incremental investments and a real growth rate in new investments. Investments were captured by capital expenditures and additional net working capital with equal cash receipts over the investment life based on inputted

¹ For a history of Madden's research on the inaccuracies in accounting returns, see Madden and DeMuro (2025).

ROIs with a release of nondepreciated net working capital at the end of the investment life. After period-by-period inflation rates were inputted, the model produced as-reported (unadjusted) GAAP accounting statements and accounting returns period-by-period.

Madden learned that when a steady state of incremental real ROIs was inputted, he could duplicate those ROIs from as-reported (simulated) accounting statements by calculating adjusted accounting returns as CFROIs (see Madden 1999 and Holland and Matthews 2018). Note that in an environment with significant inflation rates, accounting returns such as RONA and Earnings/Book are biased upward because many of the capitalized assets are recorded at historical cost corresponding to the year in which they were purchased. The CFROI marked up the assets (using the GDP Deflator) to current dollars matching the cash flows in current dollars for that period. The CFROI used gross assets not net assets plus an explicit accounting life of the asset with released non-depreciating assets at the end of the investment life. The avoidance of RONA and net assets made current dollar adjustments more straightforward and avoided the well-known problem of “old plant” leading to low net assets and higher RONA.² Importantly, the CFROI is an internal rate of return calculation and directly comparable to a cost of capital.

One early application of this investment research was a simulation of Earnings/Book for a typical industrial firm driven by steady state 6% real ROIs on incremental investments, which is the approximate long-term real cost of capital for industrial firms. Figure 1 reproduces the early simulation work for the time period 1900 to 1990 using the advanced simulation software described in the next section and actual inflation/deflation rates in the U.S., but excludes intangibles which significantly grew in importance after 1990. The simulated Earnings/Book roller coaster is due to the gyrations in the actual U.S. inflation rates (including deflation rates in the

² The advantages of gross assets are discussed in Milano (2010).

early 1900s). The calculated CFROIs from simulated as-reported accounting statements tracked the known repetitive ROIs on new investments (see below).

[Insert Figure 1 about here]

The research conducted by Callard Madden & Associates was not published in detail until Madden's (1999) book, *CFROI Valuation*. HOLT Value Associates commercialized this work and continued a learning process of making myriad accounting adjustments to data on publicly traded firms worldwide, including adjustments for capitalization and amortization of intangibles and today is available via the UBS HOLT Global Database. The upsurge in intangible investments since the 1990s has resulted in major ongoing distortions to RONA and similar metrics such as ROIC (return-on-invested capital). In the 21st-century economy, it is essential for CFOs and their financial staffs to understand the effects on RONA of alternative capitalization and amortization schedules for specific intangible assets.³ Adjustments for intangibles impact RONA (net income plus interest divided by net assets) in three ways:

- Net income in the numerator of the RONA calculation increases because the full outlay for intangibles in SG&A expenditures is replaced with a smaller deduction for amortization of intangibles (RONA up).
- Net assets in the denominator increases due to net intangibles being added to the net asset base (RONA down).
- Complex impacts on RONA result from different accounting lives for intangibles and different reinvestment (organic) growth rates.

Madden and DeMuro (2025) provide a general purpose simulation model to allow users to gain experience with inputted life-cycle economic returns and reinvestment rates within a specified inflation environment. Each period's investment is consistent with the description in Figure 2.

³ For different conceptual ways of handling R&D outlays and the resulting accounting data, see Healy, Myers, and Howe (2002) and also Lev, Sarath, and Sougiannis (2005).

Note the flexibility in being able to define an uneven pattern of cash receipts over time, including outlays for intangibles. Madden and DeMuro provide details of all the equations utilized in constructing version 1.0 of the simulation software in order to facilitate building of more advanced versions. Version 1.0 is accessible online so that users can gain initial experience with inputting *known* life-cycle economic returns and reinvestment rates over the full time span covered plus inflation rates (choosing actual inflation rates or some other inflation environment) and then observe the resulting as-reported accounting statements and accounting returns. The simulated results resemble the earlier example in Figure 1 of inputting repetitive 6% real ROIs on new investments and seeing the year-by-year Earnings/Book that are produced.

[Insert Figure 2 about here]

The key benefit of the simulation model is to observe the levels and trends in accounting returns unadjusted for intangibles versus adjusted accounting returns that utilize capitalization and amortization of intangibles. Also, it allows users to compare simulation runs with one run using the actual inflation environment and another run using an inputted zero inflation rate to quantify the impact of inflation. In addition, users can compare simulation results across business units that have different composition of tangible versus intangible assets, different accounting lives, and different asset growth rates. Importantly, users can see the impact of ignoring the intangibles problem and relying on distorted accounting returns for resource allocation decisions. The next logical step is to use the simulation model to initiate a learning process to continually improve estimated accounting lives for the identified intangible assets of the firm. This requires a commitment to implementation of an intangibles accounting database with plausible accounting lives assigned to each intangible asset that, in turn, leads to more accurate adjusted accounting returns (we discuss intangibles accounting further in the conclusion).

In contrast to Madden's motivation to develop a viable theory of the firm, Stevens's motivation came from his experimental and theoretical research related to agency theory. Similar to other experimental tests of economic theory (Smith 2008), Stevens's experimental tests of agency theory predictions revealed the persistence of norm-based behavior consistent with Adam Smith's *The Theory of Moral Sentiments* (Smith 1759/1790). In particular, experimental tests of agency settings in auditing, financial accounting, and managerial accounting revealed the persistent influence of social norms such as honesty, fairness, and reciprocity.

Stevens published insights from his experimental and theoretical research in his first book, *Social Norms and the Theory of the Firm* (Stevens 2019). In addition to presenting the persistent evidence of preferences for social norms in single-period agency settings where profiting from positive reputations is impossible, Stevens presents a principal-agent model that includes a preference for a "promise-keeping norm" (Stevens and Thevaranjan 2010). The model assumes that the principal specifies a standard level of effort at the time of contracting and the agent suffers a disutility if he chooses to violate the standard for effort after agreeing to the contract. They model the disutility for violating the agreed-upon standard for effort as increasing in both the agent's sensitivity to a social norm and the magnitude of the violation of the norm (the difference between actual effort provided and the standard). Because they preserve all other assumptions of the traditional principal-agent model, the traditional model emerges when the norm sensitivity of the agent is zero. This allows them to demonstrate what happens to the predictions of the traditional model when the agency theory assumption of self-interest is relaxed.

When the norm sensitivity of the agent is nonzero, Stevens and Thevaranjan find results that better explain contracting behavior in practice. The key finding is that the agent would rather provide the standard level of effort than shirk as long as the standard is below a critical level and

the principal pays the agent his reservation wage for providing the effort (his cost of effort). This allows the agent to receive a fixed-wage contract from the principal rather than the incentive contract required by the traditional model. They also find that the principal can induce the agent to provide effort beyond his critical level by including a wage premium that more than compensates him for the extra effort. Finally, they find that the optimal contract for firms with high productivity relative to the agent's norm sensitivity involves a wage premium. In this special condition, it is optimal for the principal to induce higher effort from the agent by paying the salary premium. However, the required salary premium means that the principal must share the incremental gain with the agent to induce the higher effort. Stevens and Thevaranjan conclude that incorporating a promise-keeping norm increases the descriptive, prescriptive, and pedagogical usefulness of the traditional theory of the firm.

IV. INCREASING THE VIABILITY OF ACCOUNTING THEORY

We now demonstrate how applying practical accounting insights from the Pragmatic Theory of the Firm (PTF) and the Balanced Scorecard (BSC) increases the usefulness of accounting theory to accounting practitioners, theorists, and educators. In contrast to Jensen's original theory of the firm, the PTF characterizes the firm as a system of complex and interrelated activities steeped in nonlinear relationships, feedback loops, and time-lagged effects driven by multiple causes. Step one in understanding the firm as a system is to clearly specify its purpose. The following four mutually reinforcing objectives (Madden 2020) constitute the firm's purpose:

- Communicate a *vision* that is inspirational and motivates employees to join the firm's commitment to behave ethically and make the world a better place.
- *Survive and prosper* through continuous gains in efficiency and sustained innovation, which depend upon a firm's knowledge-building proficiency. Nothing works long term if the firm steadfastly fails to earn its cost of capital.
- Work continuously to build *trust* and *win-win relationships* with all the firm's stakeholders.

- *Take care of future generations* with a commitment to ensure environmental sustainability that starts with the design stage of a firm's products and services to minimize subsequent waste and pollution.

Note that maximizing shareholder value is positioned not as the purpose of the firm, but as the result of a firm successfully achieving its four-part purpose.

Figure 3 presents the components of the PTF beginning with the firm's four-part purpose and ending with shareholder returns. Viewing the firm as a holistic system, the PTF emphasizes the interrelationships of the firm's major activities that include *work, innovation, resource allocation, firm risk*, and the connection between long-term financial performance and market valuation via the *life-cycle framework* and *shareholder returns*. As reflected in Figure 3, the PTF positions the firm's knowledge-building proficiency as the critical determinant of its long-term financial performance. Each component of the PTF is described briefly below along with the implications for accounting-based systems and control:

[Insert Figure 3 about here]

Work: The objective of work is to deliver value to the customer while simultaneously reducing waste. A systems perspective is essential to see how an action in one part of a system can cause waste in another part. For example, accounting-based cost controls can lead to optimization of local efficiencies to the detriment of overall system performance. Installing a faster machine that feeds into an existing bottleneck in a manufacturing line improves the accounting-based efficiency of that machine but worsens overall system performance. Activities that do not add value are waste and should be eliminated, which requires constant monitoring of the activities of the firm consistent with activity-based management.

Innovation: In the new economy, opportunities for innovation are ubiquitous. Identifying and seizing upon these opportunities, however, depends on the firm's knowledge-building culture and its organizational structure. A pro-innovation culture questions what we think we know and

the related assumptions at all levels of the firm, thereby encouraging experimentation, accepting failures as part of building useful knowledge, helping others solve problems, mentoring to improve employees' problem-solving skills, and designing performance measurement and incentives to assist and motivate those doing the work.

Resource Allocation: Resource allocation is influenced by the extent of command-and-control organizational structure—the fewer the layers, the flatter the organizational structure and typically the faster information flows from front-line employees to top management (Madden 2025b). Resource allocation is also influenced by distortions in measuring accounting-based return-on-assets and the tradeoff between investment to improve the efficiency of existing assets and investment to develop new businesses that might even compete with existing businesses.

Firm Risk: Modern finance connects risk with stock return variability. However, past volatility is not always a guide to the future. In contrast, the PTF views firm risk as obstacles to achieving the firm's purpose, which is rooted in systems thinking and requires a clear specification of the firm's purpose. Thus, firm risk increases with changes that degrade the likelihood of the firm achieving its purpose. In contrast to risk in modern finance, where higher risk is integral to achieving higher expected returns, an increase in firm risk inevitably generates lower expected returns. There are a myriad of management actions that benefit near-term earnings but degrade the likelihood of the firm achieving its purpose in the long run.

The Life-cycle Framework: In a market-based economy, a firm's economic returns regress towards the average cost-of-capital return over time. Economic returns refer to cash-out/cash-in achieved returns on investment (ROIs). Further, a firm's reinvestment rate typically slows as the firm grows and faces more competition. To maximize its usefulness to practitioners, therefore, the PTF includes a life-cycle framework that provides important intuition regarding

performance expectations and investment priorities connected to a business unit's life-cycle position.

Figure 4 displays the relationship between a firm's economic returns and reinvestment rates over the firm's life cycle. At the *high innovation stage*, management's critical task is to confirm or refute key business model assumptions and, if necessary, pivot to a more viable approach to deliver value to targeted customers. Competitors are also attracted to this opportunity, however, and strive to duplicate and possibly improve upon the value experience offered by the successful startup. Consequently, firms eventually enter the *competitive fade stage*. Portfolio managers well versed in the life-cycle framework frequently debate buy/sell opportunities in terms of a firm's ability to "beat the (expected) fade" (Fama and French 2000, Wiggins and Ruefli 2002, 2005). To achieve a favorable fade, management needs to build or acquire needed capabilities to expand beyond the comfort zone of their existing technologies, products, and services. At the *mature stage*, economic returns approximate the cost of capital and there is a tendency for management to myopically focus on the efficiency of existing businesses. Through experimentation with emergent opportunities, however, management can achieve economic returns on new investments substantially more than the cost of capital. The hallmark of the *failing business model stage* is a business-as-usual culture that fails to adapt to fundamental change. Purging this dysfunctional culture is the top priority in this final stage if the firm is to survive. At the bottom of Figure 4, management's top priorities are shown dependent upon a firm's life-cycle stage.

[Insert Figure 4 about here]

Figure 5 contains the history of Eastman Kodak in life-cycle terms beginning with 1960 and ending in 2011, one year before its bankruptcy. The top panel plots economic returns as CFROI (cash-flow-return-on-investment), which is an inflation-adjusted accounting return with a

considerable number of adjustments to minimize accounting biases, e.g., capitalization and amortization of R&D expenditures. The middle panel displays real asset growth rates that approximate reinvestment rates. The bottom panel tracks the firm's total shareholder returns net of the S&P 500 Index total return. As reflected in the top panel, Kodak's introduction of the Instamatic cartridge in the early 1960s contributed to earning CFROIs well above the 6% real (inflation-adjusted) long-term cost of capital coupled with significant asset growth rates. This unexpected surge in performance exceeded investor expectations leading to outperformance of the S&P 500 during the 1960s and the early 1970s. Figure 5 suggests that Kodak's knowledge-building culture was proficient in securing patents, but sorely lacking in adapting to change, i.e., digital photography. That explains Kodak's long-term underperformance culminating in bankruptcy.

[Insert Figure 5 about here]

Historical excess shareholder returns can be explained by deriving investor expectations of a firm's future life-cycle performance at the beginning of a period and then comparing actual performance to expected performance.⁴ At a point in time, one can use the life-cycle framework in the PTF as a *visual language* to gauge how high the bar is to outperform the market in the future. Investors should assess management skill to judge if they can realistically deliver future life-cycle performance different from current market expectations.

The Balanced Scorecard: In their *Harvard Business Review* article, "The Balanced Scorecard: Measures that Drive Performance," Robert Kaplan and David Norton (1992) argued that traditional financial performance measures worked well in the "industrial era" where competition was limited and value creation was driven primarily by scaling up tangible assets. They pointed out that financial metrics alone were not adequate to measure and drive firm

⁴ For an explanation of the life-cycle valuation model and an example of its use for analyzing excess shareholder returns, see Madden (2026, 52-56).

performance in the highly competitive “information era” where value creation is driven primarily by intangible assets such as customer loyalty and relationships, efficient and high-quality operating processes, new products and services, employee skills and motivation, databases and information systems, and organizational culture. For the new information era, Kaplan and Norton developed a “Balanced Scorecard” (BSC) that supplemented financial measures with nonfinancial measures and added three other perspectives besides the financial perspective for management to track: the customer, internal business processes, and learning and growth perspectives.

Michael Jensen (2002, 247-248) was particularly critical of the Balanced Scorecard developed by Kaplan and Norton:

When we use the dozen or two measures on the balanced scorecard to measure the performance of people or units, we put managers in the same situation as managers trying to manage under stakeholder theory. We are asking them to maximize in more than one dimension at a time with no idea of the tradeoffs between the measures. As a result, purposeful decisions cannot be made... Given a dozen or two dozen measures and no sense of the tradeoffs between them, the typical manager will be unable to behave purposely, and the results will be confusion.

Jensen concluded that the only valid objective function that should govern management decision-making is to *maximize the total long-run market value of the firm*, including the sum of the values of all financial claims on the firm (equity, debt, preferred stock, and warrants). Kaplan and Norton (1996, 52-79) provided a detailed response to the criticisms of Jensen. They began by reviewing the argument “that managers cannot operate with multiple measurements of business-unit performance,” and that “multiple measures—some financial and some non-financial—are confusing and lead to ambiguous, often conflicting, signals about what the organization values.” Next, they addressed these criticisms by using the analogy of a pilot entering the cockpit of a jet airplane and observing that there is only a single instrument for guidance. Kaplan and Norton argue that no pilot would consider flying an airplane through crowded air space with only a single

instrument. They conclude, “Navigating today’s enterprises through complex competitive environments is at least as complicated as flying an airplane. Why should we believe that executives need anything less than a full battery of instrumentation to guide their journey?”

The competitive environment described by Kaplan and Norton in the 1990s has only intensified in the intervening decades. Kaplan and Norton were visionaries who challenged the underlying assumptions of agency theory. In particular, they recognized the need for a comprehensive control system that included financial and nonfinancial measures that were derived from management’s strategy and linked together in a chain of cause-and-effect relationships. To illustrate the causal relationships among the strategic objectives across the four balanced scorecard perspectives, Kaplan and Norton added a picture of those relationships called a *strategic map*. This useful tool allows management to gain an intuitive understanding of complex systems by visually mapping the interrelated cause-and-effect relationships throughout the firm.

Kaplan and his co-authors have extended the BSC to incorporate strategies focusing on sustainability and the needs of planet and people. For example, Kaplan and Ramanna (2021) proposed an accounting and control system that records Greenhouse Gas (GHG) units emitted during operations as an *E-liability*. Further, Kaplan and McMillan published an article in the *Harvard Business Review* entitled, “Reimagining the Balanced Scorecard for the ESG Era.” Kaplan and McMillan (2021) argue that there has been a re-orientation away from the narrow view of the purpose of the firm promoted by Jensen. “This re-orientation acknowledges widespread concerns that companies who focus only on their shareholders ignore and may even contribute to the societal problems of environmental degradation, growing inequality, and persistent poverty.” They show how the BSC can be extended to reflect triple bottom line strategies encompassing economic, environmental and societal performance.

Despite the usefulness of the BSC as an effective management control in the new economy, there are important insights that it is not designed to address. Figure 6 illustrates the additional insights that can be gleaned from incorporating the theoretical framework of the PTF with the powerful management controls of the BSC. As illustrated by the grey boxes, the PTF provides useful intuition regarding the firm's purpose and the importance of developing an organizational structure that enables employees in lower levels of the firm to drive innovation and contribute to formulating strategies and their needed adaptation in the future. The four-part purpose of the firm provided by the PTF, with its explicit requirement for maintaining win-win relationships and taking care of future generations, logically fits at the top of the figure. Thus, the high-level tasks of purpose definition and organizational structure are addressed by the PTF whereas the BSC addresses next level tasks of planning, measurement, and control.

[Insert Figure 6 about here]

In addition to emphasizing the purpose of the firm and organizational structure, the theoretical framework provided by the PTF emphasizes life-cycle track records to put a magnifying glass on the many inaccuracies (levels and trends) in the plotted *unadjusted* accounting return metrics and reinvestment rates. Such inaccuracies lead to degraded management decisions through poor resource allocation and degraded investment decisions through poor long-term value calculations. The BSC does not address this issue because it is not designed to display *long-term* financial performance. Consequently, as we argue in the conclusion below, accounting practitioners and policymakers will need to develop new methods of accounting for intangible assets and returns. Fortunately, the PTF is ideally designed to advance intangibles accounting in the 21st century (see the conclusion).

Shared Values and Social Norms: As we emphasize in our tribute (Madden and Stevens 2024), Jensen promoted a positive theory of integrity later in life. In particular, he aspired to empower business students “to give authentic expression to their personal values in their professional lives, and he (saw) the main function of management studies as assisting them in this effort” (Dierksmeier 2020, 73). Thus, Jensen moved away from promoting a mechanistic approach based on self-interest to a humanistic approach based on integrity and personal values. As Dierksmeier (2020, 80) argues, however, Jensen’s continuing commitment to Friedman’s positive economic theory impeded the kind of progress he envisioned for management and business education. To avoid thinking “normatively” about these issues, for example, Jensen and Erhard avoided common definitions of integrity related to being honest and having strong moral principles and used the engineering definition—“the state of being whole, complete, unbroken, unimpaired, sound, perfect condition”—which they argued was a “purely positive phenomenon” (Jensen and Erhard 2011, 26).

Deirdre McCloskey (2017, 3) argues that the ethical and economic disasters of the “greed-is-good” philosophy in the first decade of the 21st century (the dotcom crash of 2000 and the mortgage market crash of 2007-08) were driven by Jensen’s earlier advocacy for agency theory. While Jensen acknowledged as much in his management training course with Erhard (Dierksmeier, 2020), McCloskey argues that the positive theory of integrity he promoted toward the end of his life contains bad ethics and bad science. Regarding the former, Erhard and Jensen avoid any serious engagement with ethical philosophy or the humanities in general. In particular, their positive theory of integrity ignores fundamental questions regarding societal norms and culture.

McCloskey argues that the way forward is to realize that most scientific issues are both positive and normative, so economics should get serious about values and norms.⁵

In contrast to Jensen and his colleagues, we introduce shared values and social norms into the PTF in a way that incorporates insights from the social sciences and the humanities. In particular, we incorporate insights from Adam Smith's (1759/1790) first seminal work, *The Theory of Moral Sentiments* (TMS). Stevens (2024) argues that the moral theory in TMS provided the moral foundation for Smith's (1776/1791) second seminal work, *The Wealth of Nations*. That moral foundation, based on shared values and social norms, has been rediscovered by Nobel-Prize-winning economists such as Vernon Smith and Amartya Sen. Social norms that are important to the accounting profession—such as responsibility, transparency, and accountability—have been credited with giving birth to capitalism. Jacob Soll (2014) argues that double-entry accounting and a merchant culture of transparency and accountability allowed free-market capitalism to arise first in northern Italy around 1300. Other social norms that have contributed to the birth and success of capitalism include honesty and promise keeping (Stevens 2019).

We find Adam Smith's moral theory particularly useful for incorporating shared values and social norms into the PTF. Consistent with the goals of the PTF, which is to facilitate systems thinking to analyze practical problems, Smith's moral theory is inherently *pragmatic*. In particular, his moral theory is able to account for differences in values and norms across differing societies, cultures, and times. Yet, far from being a moral relativist, Smith sought the shared values and social norms that were commensurate with the greatest human flourishing. We argue that adding shared values and social norms builds a more descriptive and useful theory of the firm (Madden and Steven 2025). In a recent survey of 1,348 CEOs and CFOs in North America, Graham et al.

⁵ For a detailed discussion of Jensen's attempts to promote his integrity theory in management education later in life, and why his positivistic approach ultimately failed, see Dierksmeier (2020).

(2022) find that 92% of the executives believe that improving corporate culture would increase firm value. Further, they find that executives view corporate culture as consisting of values and norms that are widely shared and strongly held throughout the firm that help employees understand which behaviors are and are not appropriate. Consistent with common conceptualizations of these two concepts, executives view values as ideals that employees strive to fulfill and norms as specific behavior that helps employees live out those ideals.

The practical importance of shared values and social norms in accounting can be illustrated when a firm incurs a shortfall in expected financial performance. Researchers in accounting have documented the tendency for managers to then artificially inflate their financial performance in such circumstances by making short-term decisions that threaten long-term performance or simply “window-dressing” the financial statements to meet expectations. Researchers have also demonstrated, however, that such opportunistic behavior can be reduced by a strong corporate culture that encourages honesty, transparency, and accountability (Stevens 2019). Consistent with the beliefs of the North American executives, the PTF provides the necessary prerequisites for a strong corporate culture to lead to long-term value creation. As shown in Figure 7, shared values and social norms sustain trust and a shared purpose. Trust increases as employees experience that management acts consistent with a shared purpose and follows through in doing what they said they were going to do and trust provides the foundation for shared purpose. In addition to providing a lubricant that makes the activities of the firm more efficient, trust and shared purpose are able to sustain a culture of knowledge-building proficiency. This leads to increased efficiency and innovation which leads to increased value experienced by customers.

[Insert Figure 7 about here]

V. CONCLUSION: ADDRESSING 21ST-CENTURY CHALLENGES

This paper describes our search for a viable theory of the firm that bridges the gap between accounting practice and theory. A major focus of accounting policymakers is to encourage firms to internalize sustainability values, accurately report their sustainability performance, and aspire to improve their sustainability performance (Christensen et al. 2024). Further, a multi-disciplinary program exploring the future of the corporation has concluded that the purpose of the corporation in the modern economy is *to create profitable solutions for the problems of people and planet, while not profiting from creating problems for either* (British Academy, 2018, 2021). Yet, the economic theory of the firm in accounting focuses exclusively on financial returns to shareholders as the only purpose of the firm and ignores the increasing role of shared values and social norms in the modern economy (Graham et al. 2022). Our practical approach helps the accounting profession address 21st-century challenges including environmental and social issues, sustainability, and accounting for intangibles.

We demonstrate how to increase the viability of the theory of the firm by incorporating practical accounting insights from the Pragmatic Theory of the Firm, the Balanced Scorecard, and recent research documenting the importance of shared values and social norms in value creation. Our practical approach helps accounting practitioners address the rising importance of environmental and social responsibility in shaping the purpose of the firm. Further, our approach helps accounting practitioners address the rising importance of intangibles accounting. Intangibles include R&D, brand creation and enhancement, employee training, big data analytics, AI development and software, customer acquisition costs, lean supply chain development, ecosystem participation and development, and investments to nurture and sustain a culture rooted in knowledge-building proficiency. Investments in intangibles are the new pathway to achieving

competitive advantage leading to above-cost-of-capital returns, yet researchers and policymakers have been slow to develop a new intangibles-based accounting that facilitates improved performance measures (Lev and Gu 2016). We argue that the evolution of intangibles accounting needs to start at the firm level so that management and the board can quickly seize the following benefits:

- Improved understanding of how value is created (or dissipated) by the firm's business units
- Better performance measurement and compensation systems attuned to long-term value creation
- A sharper lens for the analysis of resource allocation focused on intangibles that can contribute to competitive advantage

One approach to making progress in the new intangibles accounting is not for policymakers to push for the immediate capitalization and amortization of intangibles similar to the handling of intangibles with purchase-accounting acquisitions involving goodwill. Instead, we recommend a two-step approach. First, practitioners (e.g., CFOs and their staffs) should be given the responsibility to build intangibles accounting databases that will improve the accuracy of their accounting return calculations thereby securing the benefits enumerated earlier. After considerable experience at the firm level that demonstrates the usefulness of this effort, policymakers can take the second step of implementing intangibles accounting rules for audited (published) accounting statements (Wyatt 2008; Zeghal and Maaloul 2011). Figure 8 illustrates how an intangibles accounting database would contain needed data on intangible assets for each of the firm's business units. This would be combined with GAAP data to generate more accurate business unit adjusted accounting returns that enable significantly more reliable business unit life-cycle track records. The bottom line is better resource allocation decisions for management and better investment

decisions for investors. Management and boards, however, may choose to limit disclosure of business unit data due to a perceived benefit to their competitors.

[Insert Figure 8 about here]

Finally, we conclude that our practical approach addresses widely-acknowledged problems in business school education. Courses from accounting and finance to strategy and marketing are commonly presented as independent silos of knowledge with little connection to current practice. Our approach promotes a systematic way of thinking about value creation that extends from upper-level innovation and strategy to lower-level problem solving all the while adding important insights for corporate governance and management control. Our approach also provides a useful platform for business school faculty to emphasize the increasing importance of shared values and social norms in creating value in the 21st century. Finally, our approach bridges accounting practice with theory by promoting practical research topics that directly address the challenges of accounting professionals within their working environments in contrast to basic research topics that are often favored by “Top-5” academic journals (Kaplan 2019).

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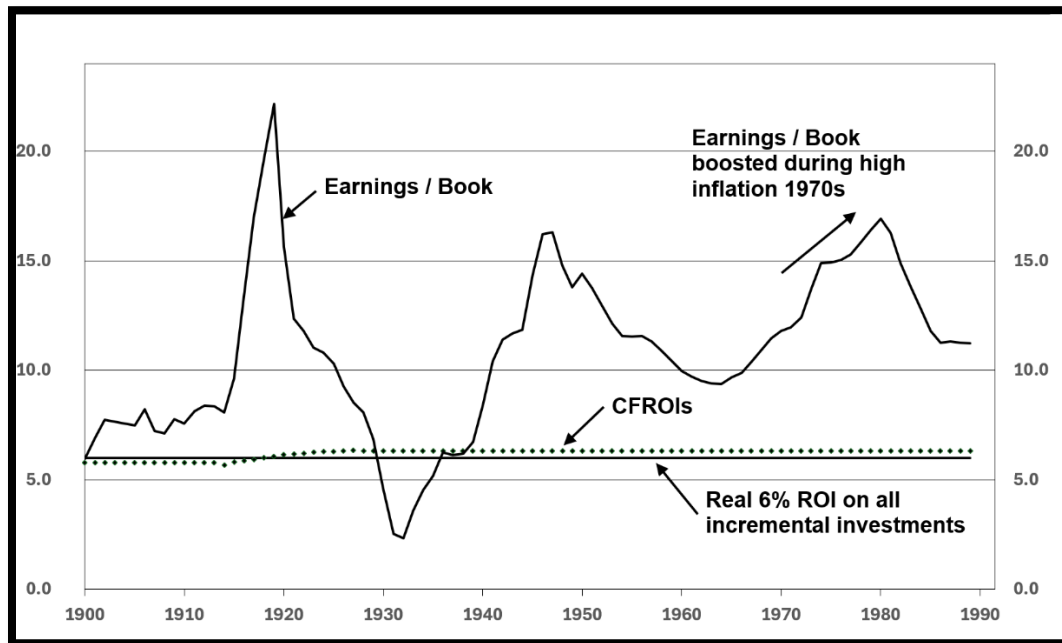
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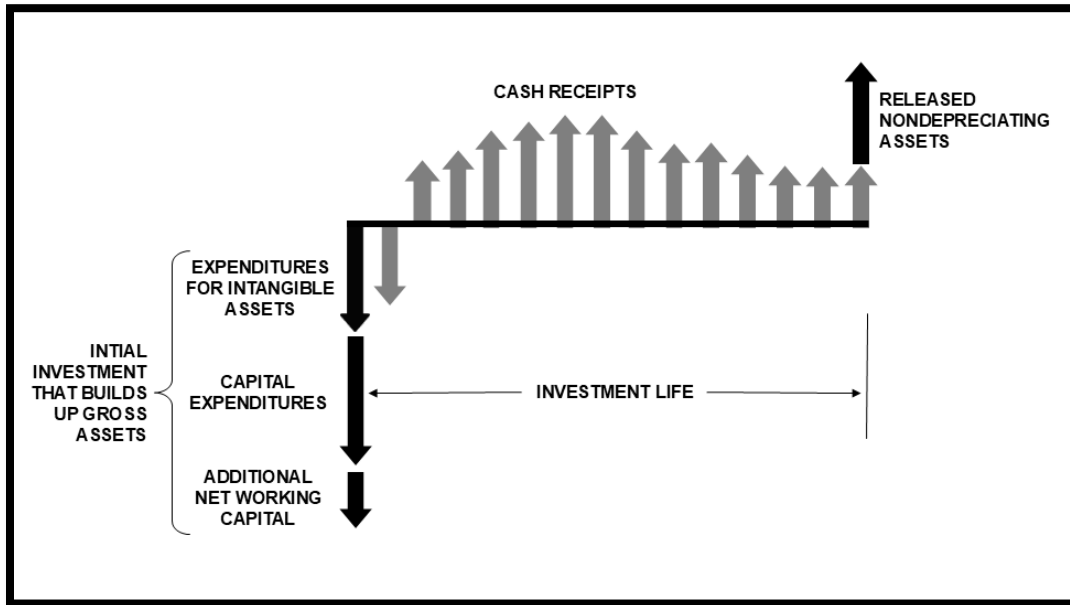
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FIGURE 1
Simulated ROE for an Industrial Firm Earning the Cost of Capital, 1900 – 1990



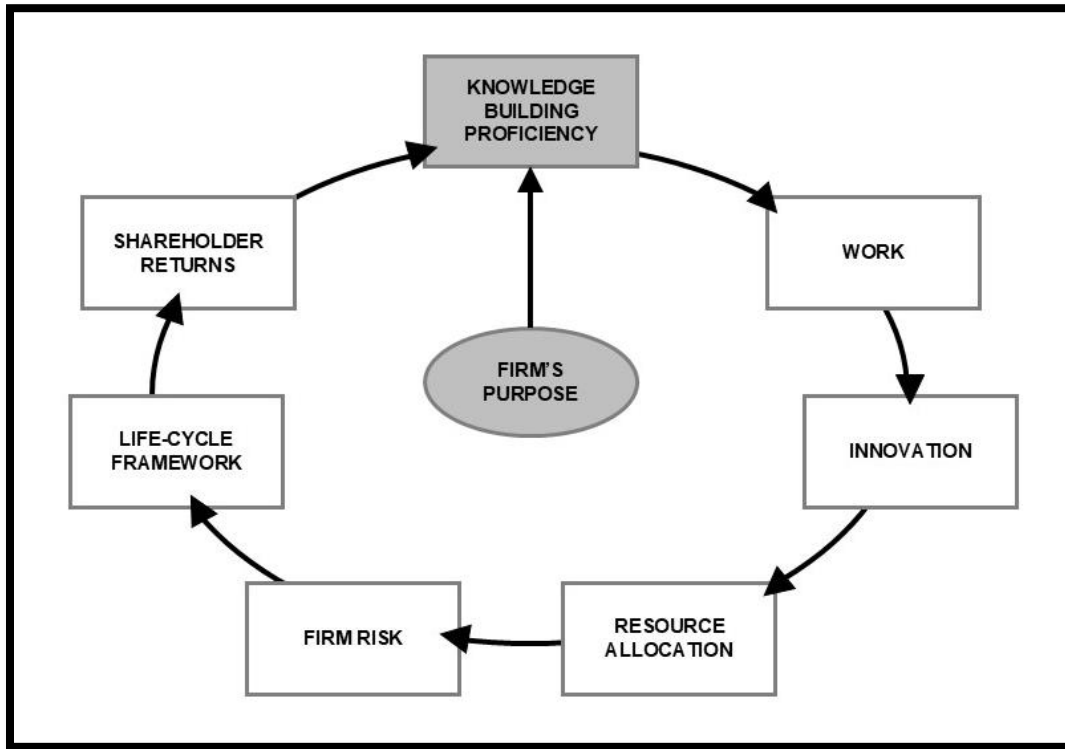
Source: Madden and DeMuro (2025)

FIGURE 2
Return on Investment (ROI) Components in the Simulation Model



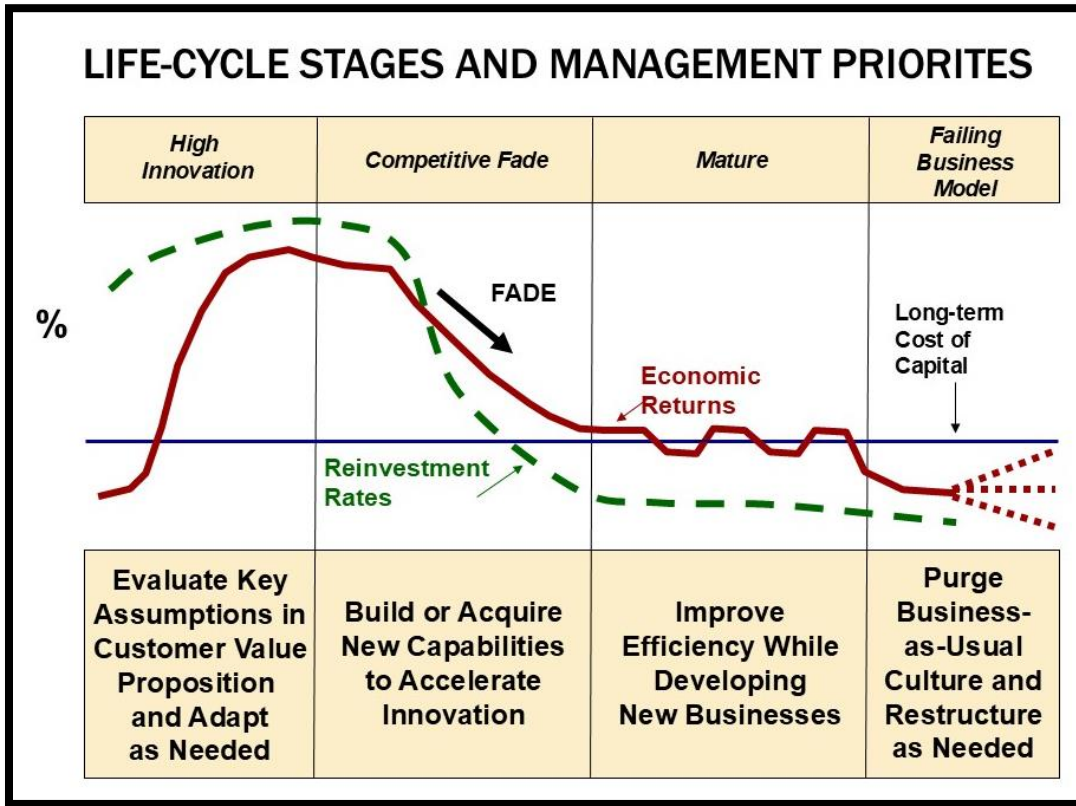
Source: Madden and DeMuro (2025)

FIGURE 3
Components of the Pragmatic Theory of the Firm



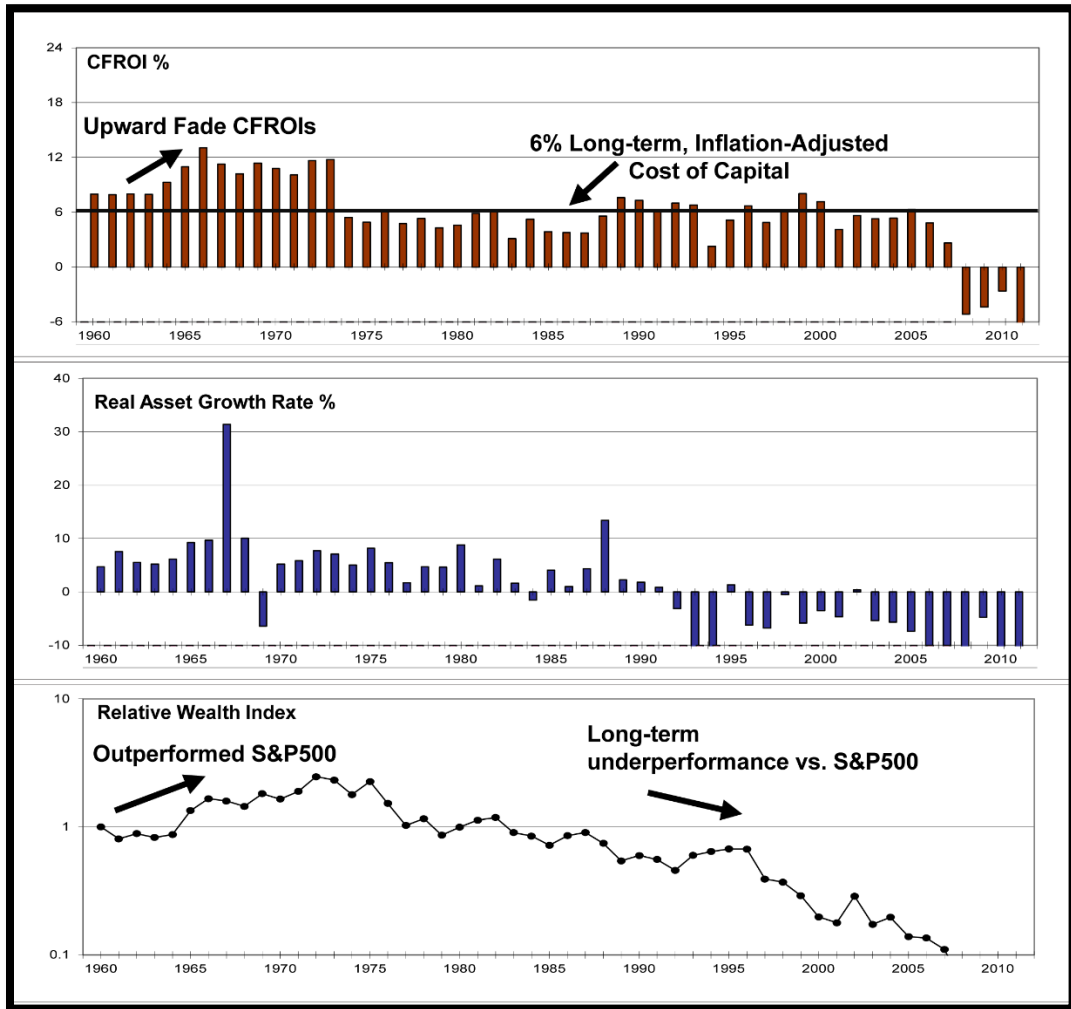
Source: Madden (2020, p. 31)

FIGURE 4
The Life-Cycle Framework



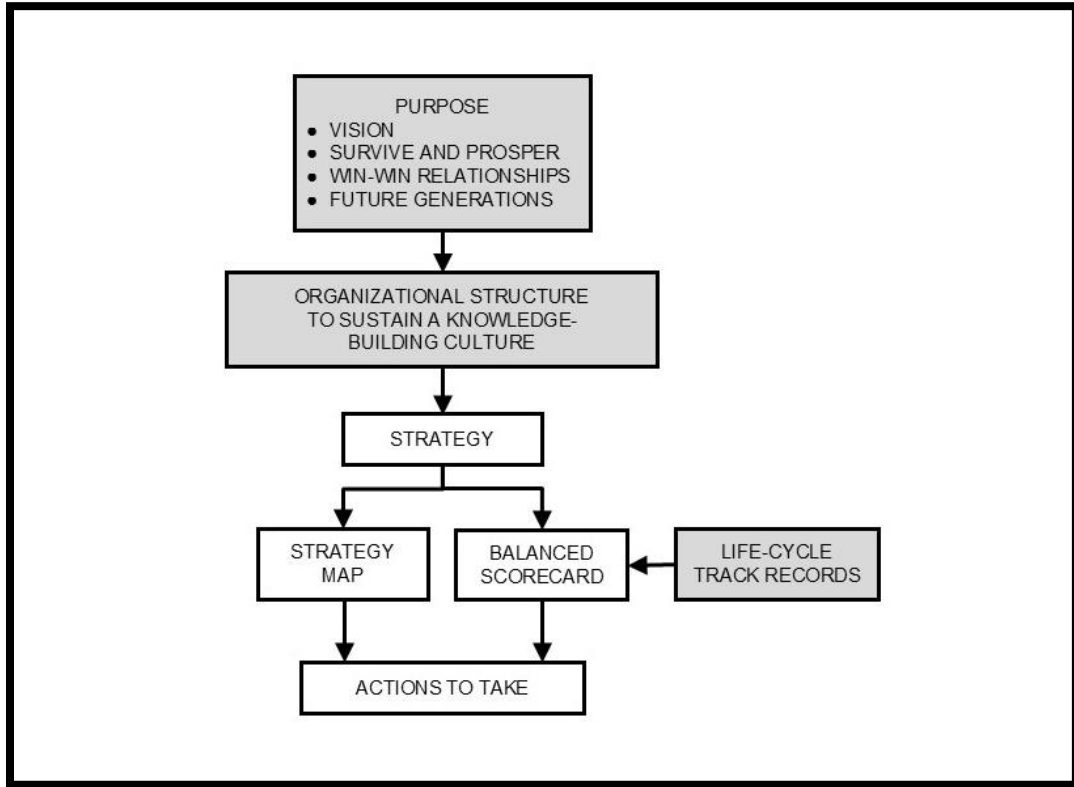
Source: Madden (2025a, p. 93)

FIGURE 5
Life-Cycle History of Eastman Kodak 1960 – 2011



Source: Madden (2025a, p. 23)

FIGURE 6
The Pragmatic Theory of the Firm with the Balanced Scorecard



Source: Madden (2025a, p. 145)

FIGURE 7
Sustaining a Strong Corporate Culture for Value Creation

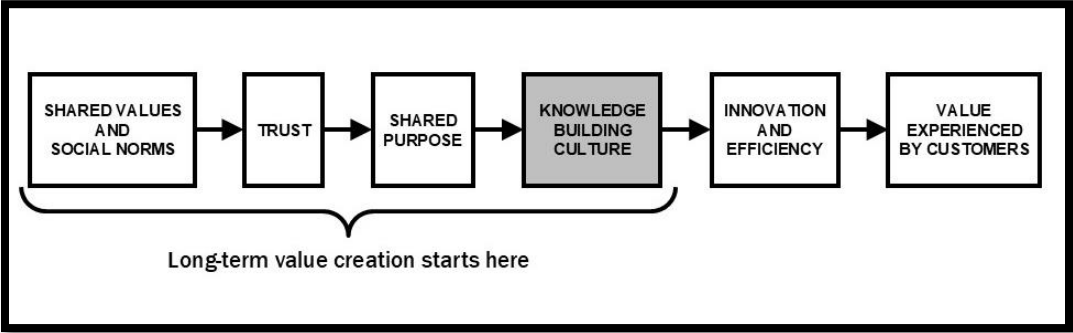


FIGURE 8
Improved Decision-Making Using an Intangibles Accounting Database

