

Living-Asset Stewardship: How Organizational Learning Leads to Exceptional Market Returns

Jay Bragdon and Richard Karash

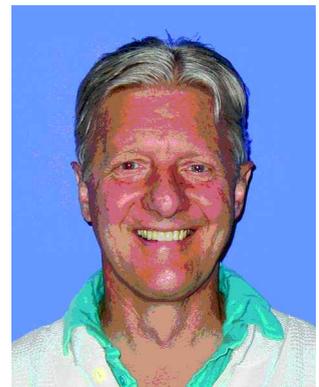
[We] found that investor loyalty was heavily dependent on customer and employee loyalty, and we understood that we were dealing not with tactical issues but with a strategic system.
—Frederick Reichheld (1998)

The more the mind is fathomed in its own right, as an organ of survival, the greater will be the reverence for life for purely rational reasons.
—Edward O. Wilson (1984)

Does a corporation's investment in learning pay off? Or are such actions, despite their appeal, just an inefficient diversion of profits? We believe it is useful to examine two opposing mental models. One is a "fixed pie" or "zero sum" model—in which any increase in the returns for one group comes at the expense of other groups (management versus labor versus shareholders, and so on). In this model, if learning benefits the individual, how can the corporation benefit? In the opposing model, there are synergies by which organizational learning generates factor efficiencies—the ability to offer more and better quality output with fewer demands on nature and society (Hawken et al., 1999). We believe that thinking affects reality. If companies think "fixed pie," that is what they will get—a self-fulfilling prophesy—because they will hold back on investments that might otherwise produce excellent returns.

We begin this article with a brief tour of economic history and our argument for the synergy model. Then, we support our argument with an analysis of 60 corporations that are global leaders in living-asset stewardship (see the sidebar). We close with surprising evidence that investing in the companies that are exemplars in living-asset stewardship appears to produce superior investment returns.

Our belief in synergy draws heavily on the works of two men: management consultant Frederick Reichheld, who describes the synergies inherent in loyalty, and biologist Edward O. Wilson, who describes both the spiritual and economic values of biodiversity. Wilson gives us the analytic tools to see a strong, reinforcing cycle in which living-asset stewardship strengthens Reichheld's model. "Humanity needs a vision of an expanding and unending future," says Wilson (1993: 39). When that vision is encouraged, people become inspired; when it is suppressed, they feel despair.¹ We submit that the very human quest for living-asset stewardship *inspires* thinking and solutions that transcend mere loyalty. We present evidence to suggest that stewardship improves corporate results, the lives of employees and customers, shareholder returns, and the possibilities for a better world.



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Living-Asset Stewardship

Living-asset stewardship (LAS) is a respect for life. It is expressed in the ways companies treat people and nature—the web of life that supports all commercial activity. The power of LAS is the power of inspiration. Companies that practice good LAS tend to attract the best employees, the most committed strategic partners, the most loyal customers, and the most patient investors. They are more trusted and more energetic than their peers, and more likely to succeed in the infinite game of sustainability.

Until recently, analysts, lenders, and investors have been unable to describe the growing power and influence of stewardship companies. Their analytic model sees people and nature in a mechanistic context, as quantifiable and manageable tangibles, “factors of production,” as consumers, waste sites, and so on, that exist mainly to serve the end of profitability. This limited vision misses the larger truth that companies are a part of nature and society and must ultimately serve life to survive.

The most successful companies see profit not as a separate end but as a means to the end of serving, achieving a transcendent mission. Their skills are more harmonic than mechanistic. They are more adept than their peers at listening, feeling, accepting, improvising, and thinking contextually. The harmonies they create, like those of a good orchestra, touch our spirits and emotions—the source of our most creative instincts, where the real leverage of LAS exists.

Edward O. Wilson says this desire to live in harmony is an expression of our biological heritage. For thousands of generations, our ancestors lived close to the earth. Those who survived to pass on their genes to future generations learned to cooperate with nature and each other. Our genetic coding therefore predisposes us toward a reverence for life. Wilson calls it “biophilia . . . the innately emotional response of human beings to other living organisms.” Humberto Maturana’s “biology of cognition and love” is yet another expression.

When companies practice good LAS, they transcend eco-efficiency, TQM, six-sigma, and other measures of operating effectiveness. They engage the hearts and the minds of their employees and partners. People begin to collaborate, learn, experiment, and innovate more spontaneously. Their capacity for organizational learning jumps. Although the financial markets may not yet understand this process, they usually recognize the superior capacity of stewardship leaders. These companies tend to have better credit ratings than their peers, higher margins, and better stock market returns.

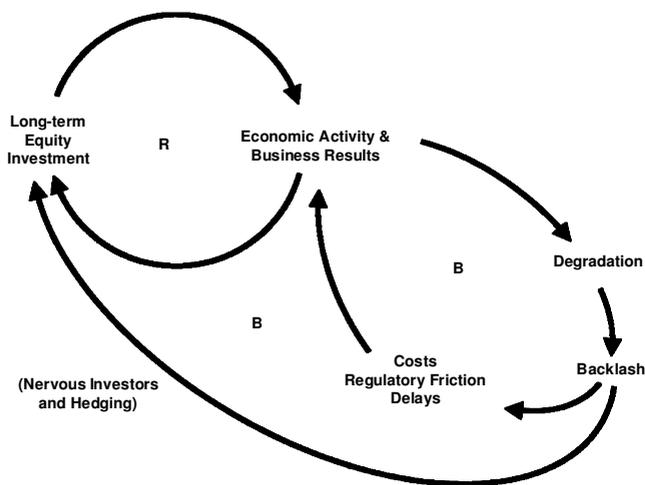
From Obstructed Learning to Awakening—A Systemic Overview

The modern investor-owned corporation was born roughly a century ago when it gained limited liability status.² This legal protection accelerated an economic reinforcing cycle of capital investment and economic activity. (Freed from personal liability for corporate misdeeds, investors poured equity capital into industry.) However, it also created a lagged balancing cycle of systemic resistance because it allowed firms to ignore their social and environmental impact, thereby reducing their capacities to learn and adapt (see figure 1).³

After about six decades, the balancing cycle became a significant economic force. During this time, a critical mass of corporate and consumer waste accumulated, degrading nature’s capacity. The relational equity (social capital) of corporations also degraded, producing a social backlash that eroded the trust and loyalty of employees and customers.

As the effects of dysfunctional corporate behavior built up in the economic system, the wall of limited legal liability crumbled. Companies’ operating costs increased due to rising employee turnover rates, critical bottlenecks in energy resources, regulatory friction, customer defections, and, eventually, weather-related calamities.⁴ Society demanded that firms take responsibility for their misdeeds and backed up the demands with boycotts and shareholder lawsuits. Investors became cautious, diverting more of their capital to short-term trading and hedging than to long-term investment.⁵ As these negative feedbacks gained strength, companies had to find new ways of learning and adapting or risk extinction. Most were slow to see this negative feedback because their accounting systems treated the environment and society as “externalities.” They also devalued the corporation’s most important assets—its living assets—relative to its nonliving (capital) assets (Bragdon, 1998).

Figure 1 The dysfunctions of the capital investment model



Long-term equity investment fuels a reinforcing spiral of growing economic activity. But with growth comes other issues. Environment degradation brings costly backlash. Investors become nervous.

The living assets of a corporation are *people* and *nature*. These are distinct from the nonliving assets because they can learn, adapt, reproduce, and intelligently organize themselves. They are symbiotically connected to one another through an intelligent network we call the “web of life.” All living assets, even single-cell organisms, instinctively monitor the web’s health because it affects their own health and productivity. Companies that understand these instinctive connections strive to live in harmony with the web. Those that find the right balance prosper because they deeply inspire their employees and customers.

Astute managers were quick to see these advantages. In collaboration with employees, they evolved cultures of living-asset stewardship (LAS)⁶ that actively engaged the adaptive instincts of everyone along the value chain. In doing so, they discovered that people care passionately about learning that strengthens the web and their connections to it.⁷ This discovery led to a new reinforcing cycle (R-2) that connects living-asset stewardship to economic activity and business results, outlined in figure 2.

This new reinforcing cycle of living-asset stewardship is a constructive response to the balancing cycle of degradation and cost escalation. A powerful and adaptive engine, it inspires inquiry, generates learning, energizes innovation, and attracts long-term investment. The solutions that arise from it drive a third reinforcing cycle of economic, social, and environmental remediation (R-3).

These two new reinforcing cycles are natural adaptive responses—conceptually similar to the responses of any stressed ecosystem—and their importance will grow as the deleterious, delayed effects of the balancing cycle accumulate in nature and society. For this reason, LAS first-movers cannot be complacent. At best, they have a head start on a long, evolutionary path. Where are they headed? That’s a question for scenario planners, but the best practices of exemplar companies give some clues (see table 1).

Perceptions That Drive the Balancing Cycle

How managers and society perceive corporations matters greatly because deeply held perceptions affect corporate cultures and governance. Most people see companies in the traditional mold described in the left column of table 1. Few, however, see its potential as the organic entity described on the right—a community of interest that thrives on living-asset stewardship and organizational learning. Holding such limited expectations, and failing to see the potential, society too often acquiesces to the worst behavior of corporations.

Similarly, the mental models of traditional corporations limit their choices and predispose them to poor decisions. Believing their world is governed primarily by *physical* rather than by *biological* laws, they tend to see resource supplies as relatively fixed and therefore scarce. Such beliefs are rooted in fear and expressed via an obsession with control: “The faster we can control scarce resources, to the exclusion of others, the wealthier and more powerful we will become.”

This model sees mainly trade-offs, not synergy. If workers get paid more, then profits and shareholder returns will suffer. If companies invest in social capital (community education, environment, health, and safety), they will have less to spend on “productive” capital (plant and equipment).⁸ With this perspective, each stakeholder group—employees, customers, the environment, shareholders, community—assumes an adversarial relationship with the others. Because the firm sees each decision as zero sum, resolution of differences is almost always through power. This dreary view dampens the only corporate resource that is truly infinite—creativity.

So prevalent has this physical fixed-pie view of business become that few people question it. Peer pressure and inertia keep the mechanical/industrial model of the firm

Figure 2 The new reinforcing cycle of living-asset stewardship

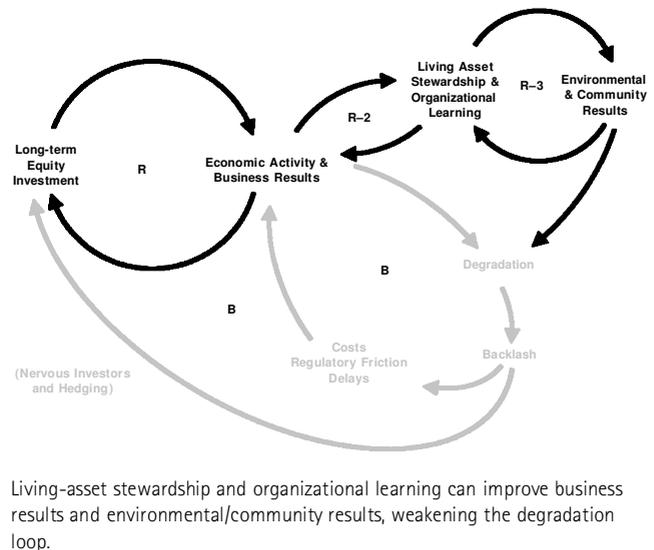


Table 1 Two approaches to management

<i>Traditional</i>		<i>Stewardship</i>
Top-down		Bottom-up
Focus on capital assets		Focus on living assets
Newtonian physics/predictability	<i>Mental</i>	Biology/randomness
Firm is a machine and is isolated	<i>Model</i>	Firm is integral to the web of life
Self-centered		Symbiotic/collaborative
Resources are limited (fixed pie)		Intelligence is unlimited
Competition is primary		Cooperation is primary
Finite game of quick returns		Infinite game of sustainability
Only the firm matters		Living relationships matter
Profit as the primary end		Profit as means to higher end
Financial success		Mission to serve
Employees are replaceable	<i>Principles</i>	Employees are precious assets
Employees care about paycheck		Employees care about web of life
Employees are passive		Employees want to make a difference
Employees need to be directed		Employees can self-organize
Learning is <i>ordered</i> by management		Learning is <i>served</i> by management
Learning is best prescribed		Learning is best self-directed
Learning is focused	<i>Policies</i>	Learning is contextual
Learning is a cost		Learning is an opportunity
Employees are programmed		Employees are mentored
Wait until you are told		Experiment/take initiative
Must add value now	<i>Unwritten</i>	Okay to think long-term
Don't screw up	<i>Rules</i>	Mistakes are part of learning
We're watching you		We trust you
Hoard information (power)		Share information (power)
Defend your turf/get ahead		Teamwork/sharing
Minimum training		Continuous training
Periodic reviews		Continuous feedback
Training is focused	<i>Practices</i>	Training is open-ended
Measure for output		Measure for learning
Monitor progress		Inspire progress
Your ideas belong to us		We recognize your ideas
Passive employees		Inspired employees
Uncaring customers	<i>Outcomes</i>	Loyal customers/repeat sales
Impatient investors/traders		Patient investor-partners

Note: The framework is taken from M.W. McElroy. "Social Innovation Capital." *Journal of Intellectual Capital* 3 (2002): 30–39.

alive, even though its weaknesses have been exposed and new, more successful conceptual models have been tested. Entrenched beliefs, no matter how disproved, die hard.

The New Symbiotic Reinforcing Cycle

The symbiotic stewardship model described in the right column of table 1 presents the firm as a tightly coupled biological system composed of humans and nature. As partners in the web of life, we share a common biological heritage, continually exchange information, and cooperate to ensure our mutual survival. These exchanges—which occur randomly, instinctively, and consciously in countless ways—have enabled nature to cre-

ate, over 4.5 billion years, ever greater diversity, complexity, and value from a fixed base of physical matter. The LAS model is simply a human adaptation of this natural model.

The microprocessor—a symbiotic coupling of human ingenuity and silica—both is a product of the LAS model and reinforces it. Although made from one of nature's cheapest and most abundant materials, it is a valuable learning tool. It enables us to produce more with less impact on nature, to think more systemically about the feedback from commercial activity, and to remedy some of the damage done.

The reinforcing cycle of LAS is much more powerful than the predecessor cycle of capital flows and investment in industrial capacity (figure 1). Rather than leveraging the finite capacities of nonliving (capital) assets, living-asset stewardship leverages the infinite learning and adaptive capacities of people and other living assets. Like the microprocessor, LAS catalyzes quantum efficiency gains.

Evolutionary science reveals that complex systems are more adaptable and stable than simple ones, because they are more diversified. The tight coupling of humans and nature via living-asset stewardship strengthens companies because it inspires both innovation and diversity. When corporations see themselves as integral parts of a larger, continually evolving biological system, they tend to become better stewards of their living assets.

Synergies within the Firm

Consider how living-asset stewardship works within the firm. Figure 3 shows relationships among three of its most important living assets—employees, customers, and shareholders. Each link is a causal connection, and together they explain the mutually reinforcing nature of employee value, customer value, and shareholder value. The rationale of each linkage is straightforward.

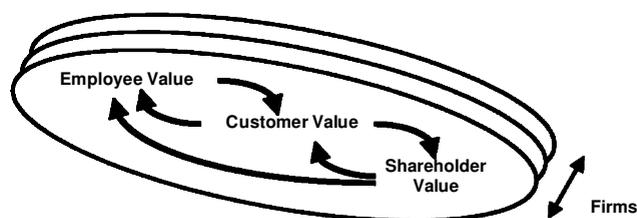
The strength of the links depends on the stewardship demonstrated. Effective stewardship—respecting the lives and needs of all three stakeholder groups—strengthens these links while increasing the value of the firm for *all* its participants.⁹ As in nature, such synergies within the firm compound to make the whole more than the sum of its parts.

Synergies with Society and Nature

The partnership between a firm and its living assets strengthens as it reaches out to embrace nature and host communities. Again, as figure 4 demonstrates, each link is a causal connection; together the links explain the mutually reinforcing nature of values for the firm, for the community, and for the ecosphere. In this network of relationships, the rationale for each link derives from the premise that value for the firm can create value for the community and nature (and vice versa).¹⁰ Stewardship is the catalyst that enables this positive feedback, and the reinforcing nature of the system depends on the stewardship demonstrated.

Looking at figure 4 from top to bottom, we see the potentially reinforcing linkages between the firm and society.¹¹ Firm value creates value for society. The word *health* in this context broadly encompasses personal happiness, growth, and fulfillment, the feeling of connection between people's work lives and their most deeply held beliefs and values. This type of health enables people to open their hearts and minds to learning, to constructive problem solving, and to strengthening the ties between the firm and its stakeholders. Such healthy, reinforcing behavior

Figure 3 Stakeholders have mutual interests that reinforce one another

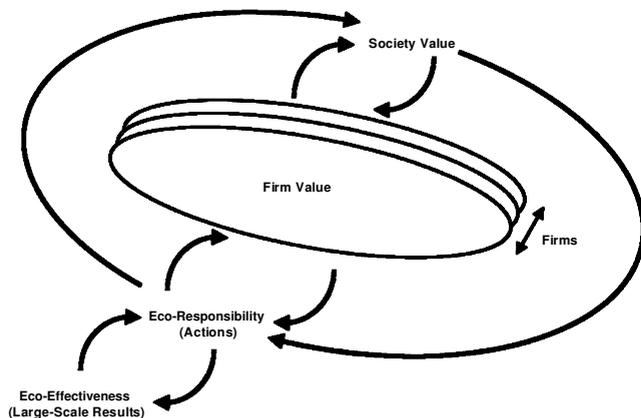


Each link is a causal connection. Together, the links explain the mutually reinforcing nature of employee value, customer value, and shareholder value. Each link has a rationale. Employee values create customer value because customers respond to happier employees. Customer value creates shareholder value because customers buy more and are less price sensitive. Shareholder value creates customer value because the firm with high shareholder value has more options for investment to create additional customer value. Customer value creates employee value because employees are more satisfied when dealing with happy customers. Shareholder value creates employee value because, in the modern firm, the employees are themselves shareholders; even if they are not shareholders, they have more security and opportunity for advancement.

These links, and the mutually reinforcing nature of the system, depend on the stewardship demonstrated. Effective stewardship makes all these links strong and increases the success and value for *all* the participants at the same time. Weak or ineffective stewardship weakens the links, and then it's more of a "zero-sum" game with trade-offs.

The overall result is "firm value," which accrues to all three stakeholder groups.

Figure 4 Living-asset stewardship drives a reinforcing cycle that benefits the firm, society, and nature



Each link is a causal connection. Together, the links explain the mutually reinforcing nature of values for the firm, for the community, and for the ecosphere. Each link has a rationale, "Value for the firm creates value for the community because . . ." Again, there is a question of stewardship; these links and the reinforcing nature of the system depend on the stewardship demonstrated. Without stewardship, the links are weak, the reinforcing possibility is overshadowed by the "zero-sum" nature, and it is an impossible trade-off.

who add value to a firm's offers are encouraged to collaborate and add further value because they want to be connected with companies that are productive, respected, and trusted. Their reputations are enhanced in doing so.

As the ecologically responsible firm's value grows, so does its potential for effectiveness in partnering with nature.¹² It has both the financial resources to invest in more evolved solutions and the innovative spirit to make those investments pay. In short, it enjoys a virtuous cycle of innovation, trust, and financial return that continually feeds its effectiveness with regard to ecology.

As this cycle of effectiveness becomes a more dominant feature of corporate strategy, and as the synergies of ecologically responsible firms become more apparent and emulated, the adverse impacts of corporations on nature should begin to diminish. It will, of course, take time to restore the damage already done to the web of life due to the delayed effects of current environmental degradation. Leadership companies understand that they have a lot to learn about harmonious coexistence with nature. This adds urgency to their organizational learning programs and gives them further opportunities to assert their leadership and win public confidence.

The outer rim of figure 4 shows the mutually beneficial effects of a healthier society and ecosphere. When the interaction between firms and citizens becomes more aligned, respectful, and trusting, perceptions and expectations will shift. The virtuous cycle of inspiration, trust, innovation, and profit will grow. Companies will move beyond individual stewardship to more active collaboration, as demonstrated by Denmark's Kalundborg eco-industrial park (Ehrenfeld and Gertler, 1997).

The dialogue that arises from these healthier relationships between citizens and companies, between companies themselves, and among all members of society will be more inclusive and insightful than it is today. People want to learn when they feel engaged and when they believe their participation counts for something.

In sum, the LAS model is a powerful tool because it produces so much positive feedback both within and outside the firm. It is synergistic because it builds strength on strength. Employees become happier, healthier, and more productive. Customers get better value. Corporations enjoy more sustainable profit. Shareholders get better performance. Society and the environment become healthier and more supportive of corporations. The feedback is generative because they reinforce one another. The beneficial effects are compounded.

feeds success. It is generative because it strengthens the partnership between humans and nature.

Increasing value to society cycles back to firm value. A prosperous firm and its employees feed the community's tax base and support opportunities for better education and health. Stewardship firms also encounter less crime and regulatory friction. In such communities, firms benefit from greater trust, a stronger social-economic infrastructure, and a rising tide of income—the building blocks of strong franchises.

Moving down the figure, we see further synergies between the firm and nature. Ecologically responsible firms are more aligned with the values of their stakeholders, generate less waste, and are usually more innovative than their peers. Corporations that recognize the tight coupling of humanity and nature—that respect life and strive to emulate waste-free natural systems—tend to be more profitable than those that continue to view themselves as dissociated from nature. Employees feel inspired to learn, share ideas, and innovate because their values are honored. Customers are more eager to buy because they welcome solutions that are friendly to nature and the environments in which they live. Distributors and others

The Limits for Any Reinforcing Loop

This conceptual blueprint for synergistic growth runs into two constraints: (1) limits on how quickly the average corporation is willing and able to adapt, and (2) limits to the earth's ability to keep up with the growing population's demand for more resources. The first is a problem of inertia and lack of strategic vision. Most companies believe that stewardship costs more than it provides in benefits, a belief we refute. The second addresses the more intractable problem of earth's capacity and is harder to solve. For example, if we double the fuel efficiency of cars, but triple their production, the environmental impact can only worsen.

The best we can do in such a world is to rapidly dematerialize production—to increase the amount of recycled, reusable, and renewable materials; to increase the usefulness of these materials through better design; and to eliminate the need for nonrenewable energy to produce, market, operate, and dispose of them. This goal is well within our intellectual and learning capacities, and it is where the corporate world is heading.

To some, the foregoing paragraph will appear speculative. Yet, such adaptation is happening now. The impetus comes from within corporations as they learn more about the synergy (and limits) of natural systems, and from citizens as they learn how corporations can become more harmonious with the living systems that embrace them (nature, society, free markets). Peter Senge describes the success of this colearning and coevolution process as generative learning.

Generative learning is powerful because it continually reinforces itself. It is passionate because it flows from our deepest beliefs and values. It is connected and relevant because it responds to real-world challenges. It is cumulative because we can store it and reuse it in books and databases, and it compounds because we continually build on it. These attributes enable us to adapt quickly.

In companies where generative learning is encouraged and allowed to flourish, it becomes deeply insightful and innovative. It leads to quantum jumps (Zohar, 1997) in efficiency and utility with decreasing material input, what Hawken et al. call “factor efficiencies” (1999). The Internet and fiber-optic cable are good examples of such efficiencies.

Testing Our Theory

To test our theories, one of us (Bragdon) has identified and examined exemplar companies that demonstrate living-asset stewardship, which we call the global living-asset management performance (LAMP) index.TM The index is a barometer of living-asset stewardship, which measures the financial performance of 60 stewardship pioneers. The index covers a broadly based list of industries that roughly corresponds to the Morgan Stanley Capital International (MSCI) World Index.¹³ In terms of living-asset stewardship, the 60 LAMP companies are, in our opinion, the “best of class” within their industrial sectors. LAMP companies are also industry leaders in organizational learning and systems thinking, the essential tools of good stewardship. Although some might define their cultures in other terms, LAMP companies are often described as visionary because they aspire to serve higher goals than profit alone. In fact, most behave as if profit is a means to the end of their stated mission, their reason for being, rather than an end in itself. In each of these ways, these companies stand out from their peers.

We selected LAMP companies by using various tests and analytic techniques. To be included, companies passed diverse screens to evaluate their respect for life and their capacity to remain good stewards. They also had to show continual evolution toward better stewardship practices. We included only those with the highest scores in each industry in the index. We measured their behavior as stewards partly by their own stated objectives and internal accounting methods.¹⁴ However, we also used third-party evaluations from social research firms and nongovernmental organizations concerned with corporate performance in human rights, workplace practices, environmental responsibility, product stewardship, and community service.¹⁵

As a result of this research, each LAMP company has a dossier that covers: (1) its stated mission, vision, and values, (2) an evaluation of its commitment to and clarity on

stewardship derived from the corporate website and annual reports, (3) an annotated bibliography of third-party opinion on its stewardship practices, and (4) an annotated bibliography of its organizational and systems thinking practices derived from leading consultants and academics in this field, when available.¹⁶ This dossier not only covers current stewardship practices, but attempts to track their evolution. It offers a broad overview of a company's culture and performance relative to industry best practices.

We also tested each LAMP company for financial stewardship, an important factor in carrying out its stated mission. These tests cover three broad areas: (1) *transparency* to ensure that a company's mission fundamentally respects life, that it regularly monitors its financial, social, and environmental performance, and that it clearly reports this performance to employees and the public; (2) *financial strength* to ensure it can continue its mission and protect stakeholders, even in troubled times; and (3) commitment to *employee growth* to ensure that it has the skills and motivated teamwork to carry out its mission and to continually improve the quality of its offers. We did not give sales and earnings growth a high priority in the selection process because LAMP companies frequently sacrifice near-term sales and earnings for long-term sustainability.

Investment Performance

The conventional wisdom within most publicly owned, limited liability corporations is that money spent on stewardship and organizational learning is either wasted or destined to produce a low return. The LAMP index strongly challenges this view. In fact, it finds that stewardship and organizational learning reinforce one another to form an energetic cycle of inspiration and innovation. That is why they produce such exceptional results.

Table 2 shows that the equity returns of the LAMP index companies were substantially above those of the MSCI World Index (its closest proxy) and the popular S&P 500 Index on a five-year test covering calendar years 1997 through 2001. This test is consistent with

others we have run over different periods, and its results are of roughly similar magnitude. We use the stock market as a measure because it is the most holistic barometer available. It represents a global consensus of informed buyers and sellers and continually arbitrages their knowledge. It is also a measure that corporations understand and follow. By affirming so strongly the value of living-asset stewardship and organizational learning, the global LAMP index calls attention to these evolved management practices.

The case for living-asset stewardship and organizational learning should not, however, rest on stock market performance alone because market prices occasionally go to extremes. On our financial stewardship screens, LAMP companies also stood far above their peers on financial strength tests. Their bond ratings (Moody's) were predominantly in the A/Aa range, two or three grades above average. Those that were unrated by Moody's generally had no net debt and huge interest coverage ratios. Most LAMP companies also outperformed their peer groups on free cash flow and on various measures of profitability (five-year averages). Precise comparisons in these areas were difficult to make, however, because LAMP companies are, by definition, emergent and innovative (hence, always changing). In the aggregate, these data suggest that LAMP companies have exceptional staying power, no matter what happens to the stock market.

The LAMP index finds that stewardship and organizational learning reinforce one another to form an energetic cycle of inspiration and innovation.

Table 2 Global LAMP Index versus MSCI benchmark (1997–2001)

	CAGR	Cumulative return
Global LAMP Index	116.1%	16.7%
MSCI World	21.4	4.0
S&P 500	50.4	8.5

Conclusion

In this article, we summarize a major shift in corporate strategic thinking—from controlling finite resources to releasing the infinite growth potential of human ingenuity. The engine of this learning process is the reinforcing cycle of living-asset stewardship. Corporations that pioneered this strategic shift have gained financial strength and market share as their stewardship practices have evolved. Although they still have a long way to go on the road to sustainability, LAMP companies now have distinct advantages. They are the fastest learners in a world where rapid adaptation and innovation are the only paths to survival.

We cannot overemphasize the notion of survival. Corporations and the global markets in which they operate are at a crossroad as nature's capacity nears its limits. The reinforcing cycle of living-asset stewardship offers a solution to the lagged balancing cycle of environmental and social degradation that increasingly threatens our markets. It is a powerful solution because it leverages human potential, our only unlimited resource.

Notes

1. Increasingly, psychology is exploring biophilia, what Erich Fromm refers to as their "passionate love of life and all that is alive." Albert Schweitzer called it "a reverence for life." Theodore Roszak calls it "the ecological unconscious." David Orr speaks of the isolation people feel when "hermetically sealed" from the natural world, "the demented image of the mind imprisoned within itself." See D.W. Orr. "Love It or Lose It: The Coming Biophilia Revolution." *The Biophilia Hypothesis* (Washington, DC: Island Press, 1993): 415–437.
2. Corporations evolved from unlimited liability to limited liability in the late nineteenth century mainly through state law. In 1875, New Jersey passed the first relatively nonrestrictive (or enabling) corporation statute. During the next two decades, the New Jersey legislature amended its statute to carry the enabling philosophy further, with the process culminating in a revised and full-blown enabling statute adopted in 1896. As these statutory developments progressed, the New Jersey corporation became the vehicle of choice for large businesses. See L.D. Soderquist, ed. *Corporations and Other Business Organizations*, 4th ed. (Charlottesville, NC: Michie Law Publishers, 1997): 17, 18.
3. Firms that don't recognize their role in the web of life are less likely to learn from and adapt to information coming from nature and society (because they are considered "external" to the corporation).
4. According to SwissRe, the costs of natural calamities began to accelerate in the late 1980s. SwissRe attributes most of this to global warming, which is caused by burning unsustainable quantities of fossil fuels. Increasingly, companies must bear the costs of reinsurance premiums and absorbing the damages they have done to the earth's resources. For more on this, see SwissRe's 1999 annual report.
5. Frederick Reichheld has commented on the economic disadvantages of investor disloyalty and high common-stock turnover rates. We also believe the increasing use of equity hedging and derivative securities is consistent with this. See F. Reichheld. *The Loyalty Effect* (Boston: HBS Press, 1998).
6. Lester R. Brown, chairman of World Watch Institute, supports this view: "I believe that there are now some clear signs that the world does seem to be approaching a kind of paradigm shift in environmental consciousness. . . . A growing number of high-profile CEOs have begun to sound more like spokespersons for Greenpeace than for the bastions of global capitalism of which they are a part." See his article, "Threshold—Early Signs of an Environmental Awakening." *World Watch* (March-April 1999).
7. The following global R&D leaders are openly committed to transcendent life-affirming goals: ABB (EcoLab), Canon (Kyosei), Hewlett-Packard (HP Way), Johnson & Johnson (Credo), Novo Nordisk (bio-ethics policy).
8. This line of reasoning led to the popular view that "the business of business is business" and nothing else. Milton Friedman, a Nobel Laureate in Economics, once said the only responsibility of a business was to turn a profit. It was commonly believed that corporations could be responsible citizens only through charity, giving back to the community a small portion of their profits.
9. For additional background, see F. Reichheld. *The Loyalty Effect* (Boston: HBS Press, 1998). Reichheld makes similar arguments, although he does not make them in the context of living-asset stewardship. The "synergy model" has appeared in the corporate world. The diagram in figure 4 was drawn, more or less, by an executive at AT&T/Lucent in the early nineties.
10. It is important to note here that firms contribute to nature only as they remedy their damage to it and learn to live in harmony with the web of life. They can't improve natural systems because

- they don't control them. Nature is the universe in which the firm (and everything else) functions. Nature can live without companies, but companies cannot live without nature.
11. What we are describing here is a composite model based on corporate best practices. We know of no single corporation that satisfies all the model's requirements.
 12. "Eco-effectiveness" is a condition in which a company's products and processes have no adverse effects on nature. "Partnering with nature" is a concept, introduced by Novo Nordisk, in which the company tries to enhance nature's carrying capacity and diversity via its products and processes.
 13. LAMP companies were selected in every major industrial sector (including old economy industries such as autos, chemicals, forest products, primary metals, and steel). In major industries where stewardship standards are in a relatively early stage of evolution (especially banking), there is less representation than in the MSCI benchmark; and in industries where stewardship is more evolved (especially information technology), there is stronger representation. Geographically, LAMP companies are concentrated mainly in North America, Northern Europe, and Japan, where stewardship practices have been in place for decades. The LAMP index has a bias toward large capitalization stocks because, in selecting companies for it, we sought the early pioneers in living-asset stewardship.
 14. Companies count what is important to them. LAMP companies, such as Toyota and Analog Devices, have systems that measure learning and teamwork (process effectiveness), rather than simply output. Most LAMP companies publish annual environmental reports that track effluent and set targets for more ecologically efficient production.
 15. Some of the most useful third-party sources that we used include: KLD's "Socrates" database (www.kld.com); SustainAbility's surveys on "Engaging Stakeholders" and related materials (www.sustainability.com); Environmental Data Interactive Exchange Weekly www.edie.net; sustainablebusiness.com; business-ethics.com; and wbcsd.org. When available, we also used business school case studies and books and articles by authorities on corporate stewardship for verification.
 16. Primary sources include books and articles by members of the Society of Organizational Learning (SoL) on corporate learning practices. While these are too numerous to mention here, a good sample can be found on SoL's website (www.SoLonline.org).

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Commentary

by *Bettye Pruitt*

As a historian, I confess that I am predisposed to be skeptical of the explanatory power of a few causal loops purporting to capture the dynamics of more than 100 years of business history. That said, I greatly value the steps Jay Bragdon and Richard Karash have taken to place the phenomenon of living-asset stewardship in historical perspective. The article raises a number of provocative questions. Here are two that came to my mind.

First, is the looming environmental crisis somehow fundamentally different from earlier crises that might be seen as comparable? For example, the Great Depression of the 1930s also produced a major backlash against corporate practices that seemed to sacrifice public well-being for private gain. Among other New Deal legislation regulating various aspects of business, the Wagner Act of 1935 guaranteed the rights of unions to organize and bargain collectively, pointedly establishing a counterbalance to the uninhibited exercise of corporate control over human "assets." Companies changed the way they operated as a result. Yet neither the crisis nor the reaction produced the



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kind of shift in mental models represented by the practice of living-asset stewardship. The competitive crisis of the 1980s, on the other hand, brought about some dramatic mental model shifts in the corporate world. The change in manufacturing from thinking of quality and low cost as either-or choices to thinking of them as complementary bears some similarity to the shift that Bragdon and Karash describe from a zero-sum game model to a synergy model in corporate thinking about people and the environment. In management thinking, command and control gave way, at least in principle, to employee "empowerment"—another momentous shift that might be seen as a precursor to living-asset stewardship.

Perhaps we should think of these prior crises and the responses to them as laying the foundation on which living-asset stewardship could arise—a gradual, cumulative rethinking of established ways of doing things prompted by episodes of negative feedback from the outside world. But could it be that the crisis of environmental degradation could be something truly different, something capable of provoking more radical shifts in perspective? Maybe the prospect of large-scale climatic change is just more sobering than anything businesses and society have faced before: a prospect that makes people feel, as nothing else can, that we are all in this together, opening us up to the sense of connectedness that is the heart of living-asset stewardship.

Second, what will it take for living-asset stewardship to become widely accepted and widely practiced? Certainly, Bragdon and Karash must get the message out about the global LAMP index and what it signifies, and the companies in the index must, collectively, continue to perform well. But I believe there must also be major shifts in thinking outside the corporate community, particularly in the investment community, given the important role that capital markets play in shaping corporate behavior. This relationship, too, has a long history worth considering. In the formative period of large-scale enterprise in the US, from roughly 1890 to 1920, federal and state laws prohibiting bank mergers and branching kept capital markets from expanding to match industrial growth, with the result that the cost of capital was high. In the development of mass production industries, this situation helped to foster a bias in technology choices favoring high-volume output, which was resource intensive, over efficiency in production, which required a greater fixed-capital investment in the form of more efficient machines. From the late nineteenth century on, the natural resource content of US-manufactured products was higher than that of goods produced in countries where the cost of capital was lower, for example, Germany, which had the model national banking system (Calomiris and Ramirez, 1996). We are more familiar with the post-World War II influence of the capital markets, especially in promoting the waves of mergers and acquisitions that have reshaped the corporate landscape since the 1960s. This example from an earlier time points up more subtle but no less profound impacts.

All of which is simply to suggest the importance of keeping in mind the larger context in which corporate decision making takes place. In the current business context, given the intense short-term pressures imposed by the market's preoccupation with quarter-to-quarter earnings growth, the prospects for widespread living-asset stewardship seem highly uncertain. What may need to change is the mental model in the investment community that the unbridled pursuit of individual gain in the market will ultimately produce a good outcome for all. This brings me back to my first question, to wonder if the environmental crisis that will produce that kind of shift will awaken a much wider group of decision makers to the recognition that we are all in this together. These are questions that future historians will have to answer.

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