

E X C H A N G E

Green Management Matters Only If It Yields More Green: An Economic/Strategic Perspective

by Donald S. Siegel

Executive Overview

This essay was written in response to the theme of this year's Academy of Management meeting, "Green Management Matters." I assert that firms should adopt "green management" practices only if such activities complement the organization's business- and corporate-level strategies and ultimately enhance profitability or shareholder wealth. To illustrate this I outline an economic/strategic perspective on green management practices, focusing on the strategic benefits and competitive dynamics associated with this activity. I also identify specific tactics firms can employ to achieve such strategic goals as well as the functional areas affected by these decisions.

The convention of denouncing economists had been established [at the end of the 18th century] and was pursued with enthusiasm by men great and small. Why has it been fashionable to abuse economists (even granting the possibility that they may deserve it)? The main reason is easily named—economists have been the premier "pourers of cold water" on proposals for social improvement, to the despair of the reformers and philanthropists who support these proposals.

—Professor George J. Stigler, Nobel Laureate in Economics

The theme of this year's Academy of Management meeting is "Green Management Matters." In selecting this theme, the leadership of the Academy of Management challenges us to consider how academic research can shed further light on the managerial implications of growing societal concern regarding the environment. In responding to this concern, we must not lose sight of the fundamental goals of the firm and sound business practices. In this paper, I assert that managers of publicly traded firms have a fiduciary responsibility to adopt "green management" prac-

tices only if such actions complement the organization's business- and corporate-level strategies. They should not engage in such activities for "moral" reasons or in response to societal pressure alone, but rather in response to a legitimate demand for green management practices from groups (e.g., consumers) that can directly benefit the firm. This profit-maximizing approach to "green management" still allows for considerable scope in formulating and implementing strategic initiatives that simultaneously advance corporate and environmental goals. Under certain conditions, managers can maximize profit while adopting environmentally friendly practices. Note that my consideration of green management strategies does not necessarily apply to privately held firms or nonprofit organizations, since they are under no obligation to maximize profit.

Theoretical Framework

We begin with first principles. The theoretical framework used to assess the question of whether "green management matters" and more broadly the topic of environmental social responsibility (henceforth, ESR) is the theory of

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the firm perspective, first outlined in the *Academy of Management Review* paper by McWilliams and Siegel (2001). An economic analysis of ESR begins with the realization that such activities have emerged in response to the perception or existence of a market failure—that is, instances where there is a divergence between the private and social costs of a firm's actions. The societal cost is defined as the private cost to the company plus an additional external cost.

External costs are those directly associated with producing or delivering a good or service that are *not* incurred by the producer. Examples of such external costs include pollution and environmental degradation, such as global warming, acid rain, and deforestation. To a typical lumber producer or a farmer, the forest has only an economic value. However, from a societal perspective, forests also have recreational, existence, and biodiversity value (e.g., witness the ongoing controversy surrounding the preservation of the rainforest in South America).

It is important to note that the fundamental rationale for government intervention and regulation is to alleviate market failure and address these social costs. However, many companies choose to go beyond regulatory compliance to provide ESR. As we will see, analyzing the relationship between regulation and ESR is a critical aspect of the strategic use of ESR. An example of recent regulation relating to environmental externalities is the current debate regarding emissions trading, or “cap and trade.” Cap and trade involves the use of economic incentives and the market mechanism to reduce carbon emissions, which are alleged to be causing significant environmental damage. Under this system, government establishes a limit (cap) on emissions. Organizations such as utilities, oil companies, and other energy-intensive businesses are then allotted permits for emissions over a specific time frame. Firms that pollute less than their allotment may then sell the right to pollute to those organizations that pollute more (trade).

A good recent example of a firm proactively adopting a strategy to engage in environmental social responsibility is Wal-Mart. In October 2005, Wal-Mart's CEO, Lee Scott, announced an

environmental initiative to improve energy efficiency, increase sales of organic food, and reduce waste and greenhouse gas emissions. As part of the plan, Wal-Mart announced its intention to reduce greenhouse gas emissions by 20% as of 2012 (the Kyoto Protocol called for a 7% reduction in greenhouse gas emissions by the United States by 2012), while setting a corporate goal of 100% renewable energy and zero waste. Another example is British Petroleum (BP), the first major industrial company to impose a cap on greenhouse gas emissions (see Lowe and Harris, 1998). BP also instituted a corporate emissions trading system and joined global efforts to reduce greenhouse emissions, and made significant investments in solar energy. In both instances, these companies were able to enhance their profitability while simultaneously reducing pollution.

In the remainder of this essay, I outline the argument for engaging in ESR, focusing on the strategic benefits and competitive dynamics associated with this activity. The issues to be considered in assessing the strategic use of ESR include quantifying the demand for ESR, product differentiation and the role of information asymmetry, the impact of ESR on industry structure and entry barriers, the relationship between ESR and governmental regulation, and the role of CEOs. Some of the key studies considering various aspects of strategic ESR are summarized in Table 1. After considering these strategic dimensions, I identify specific tactics firms can employ to achieve these goals as well as functional areas affected by these strategic decisions. This may be useful in the cost/benefit calculations associated with these decisions.

Aspects of Strategic ESR: Demand for ESR

To the extent that firms engage in strategic ESR, we can assess this behavior through the lens of the resource-based view of the firm (RBV). RBV, as introduced by Wernerfelt (1984) and further refined by Barney (1991), builds on previous research by Penrose (1959). This theory is based on the notion that companies have bundles of heterogeneous resources and capabilities that are imperfectly mobile across firms. Barney (1991) conjectured that if such resources and capabilities are valuable, rare, inimitable, and nonsubstitut-

Table 1
Selected Studies of Strategic Environmental Social Responsibility (ESR)

Author(s)	Strategic Aspects of Environmental Social Responsibility	Key Argument/Result
Hart (1995)	Competitive dynamics/advantage	Theoretical study asserted that ESR may constitute a resource or capability that leads to a sustained competitive advantage.
Jennings and Zandbergen (1995)	Institutions assisting in implementation of ESR	Institutions play an important role in shaping the consensus within a firm regarding the establishment of an "ecologically sustainable" organization.
Russo and Fouts (1997)	Competitive dynamics/advantage	Study extended RBV theory and found empirical evidence supporting the notion that ESR constitutes a mechanism for developing environmental resources and capabilities.
King and Lenox (2000)	ESR and self-regulation	Self-regulation (participation in the Responsible Care program) was <i>negatively</i> associated with improvement in environmental performance. There was substantial free-riding by nonmembers in the Responsible Care program.
Baron (2001)	Strategic ESR	ESR to attract socially responsible consumers is referred to as strategic ESR, in the sense that firms provide a public good in conjunction with their marketing/business strategy.
Feddersen and Gilligan (2001)	NGOs and activists mitigating information asymmetry	Activists and NGOs may reduce information asymmetry, with respect to ESR, on the part of consumers.
Christmann and Taylor (2001, 2002)	ESR and self-regulation	Firms engage in ESR as a form of self-regulation, in order to signal their ESR to customers, so that customers can consider the ESR of their suppliers in their purchasing decisions.
Maxwell, Lyon, and Hackett (2000)	ESR and self-regulation	ESR can be used to preempt government regulation, but such coordination efforts become more severe as the number of firms in the industry grows, due to free-rider problems.
McWilliams and Siegel (2001)	Competitive dynamics/advantage	Study presents a supply/demand perspective on ESR, which implies that the firm's optimal level of ESR can be determined by cost-benefit analysis.
McWilliams, Van Fleet, and Cory (2002)	Impact of ESR on industry structure and entry barriers	ESR strategies, in conjunction with political strategies, can yield a sustainable competitive advantage by raising rivals' costs.
Husted and de Jesus Salazar (2006)	Competitive dynamics/advantage	The authors demonstrate that both society and firms are better off when firms use ESR strategically than when they are coerced into making such investments.
Waldman, Siegel, and Javidan (2006)	Strategic leadership theory	The "intellectual stimulation" dimension of CEO transformation leadership is strongly positively correlated with the propensity of firms to engage in strategic ESR.
Siegel and Vitaliano (2007)	Information asymmetry: ESR signals product quality and strong firm reputation	Firms selling experience or credence goods are more likely to engage in ESR than firms selling search goods.
Baron and Diermeier (2007)	Strategic ESR	Firms have an incentive to self-regulate in order to prevent a consumer boycott by an NGO.
Sully de Luque, Washburn, Waldman, and House (2008)	Strategic leadership theory	Organizations with inspiring, transformational leaders possessing strong stakeholder values tend to have higher social and financial performance.
Doh, Howton, Howton, and Siegel (2009)	Institutions aiding in mitigating information asymmetry	Institutional endorsements and repudiation of ESR affect market assessments of a firm's ESR.

able, they could constitute a source of sustainable competitive advantage.

The first theoretical paper to apply the RBV framework to ESR was Hart (1995), who asserted that, for certain types of firms, ESR can constitute a resource or capability that leads to a sustained competitive advantage. Russo and Fouts (1997) extended this theory and also provided an empirical test of RBV theory applied to ESR, using firm-level data on environmental performance and profits. The authors found that companies reporting superior environmental performance also had superior financial performance, a result that can be interpreted as being consistent with the RBV theory.

McWilliams and Siegel (2001) further extended the RBV perspective by explicitly outlining an economic model of ESR. This framework is based on the assumption that companies assess the “demand” for such activities and then estimate the costs and benefits associated with satisfying that demand. Demand for improved environmental performance may arise from customers and other stakeholders; resources must be allocated to achieve ESR outcomes. The authors also demonstrated that there is an optimal level of ESR for each firm, which can be determined by cost-benefit analysis. Benefits that may arise from ESR include enhanced product differentiation, reputation/image enhancement, and improved relations with workers, customers, suppliers, government, and the community.

To broaden our understanding of the importance of green management practices, we also need to analyze how strategic ESR affects society. As noted in Bagnoli and Watts (2003), strategic ESR occurs when a company links the provision of a public good to the sale of its (private) products (e.g., eco-labeling). A rigorous theoretical and empirical analysis of such activities in “green markets” was presented in Kotchen (2006) and Besley and Ghatak (2007).

An analysis of the provision of public goods by private firms is a welcome addition to the management literature on ESR, which has been primarily concerned with answering the following question: Do firms “do well by doing good”? That is, a substantial amount of research has been de-

voted to the question of whether there is a positive association between firm financial performance and environmental or social performance. Margolis and Walsh (2001), Orlitzky, Schmidt, and Rynes (2003), and Ambec and Lanoie (2008) provided excellent summaries and syntheses of a large body of empirical evidence on the link between environmental/social performance and financial performance, concluding that firms can “do well by doing good.”

Unfortunately, a majority of these studies do not effectively address two econometric concerns in assessing such relationships: (a) *omitted variables*, such as R&D and advertising (see McWilliams and Siegel, 2000), which are strategic in nature, and (b) *endogeneity* of any measure of environmental or social performance (an independent variable in any “firm financial performance” equation that is being “explained”). The endogeneity concern arises because it is not clear whether profitability is a cause or an effect of engaging in ESR. That is, do higher profits enable managers to be environmentally responsible, or does ESR result in higher profits? This issue is not easily resolved (see Siegel and Vitaliano, 2007, for an attempt to address this issue). More sophisticated econometric analyses of these relationships suggest that the key factors driving the association between ESR and firm performance are strategic and somewhat complex (Barnett & Salomon, 2006; King & Lenox, 2001, 2002). This approach is consistent with Tim Devinney’s recent lucid and insightful essay in *Academy of Management Perspectives* encouraging a “complex and multifaceted approach” to social responsibility and encouraging researchers to explain precisely how firms can “do well by doing good” (Devinney, 2009). Ambec and Lanoie (2008) applied this reasoning to an assessment of the link between environmental and economic performance by explicitly describing the circumstances under which companies are most likely to benefit from improved environmental performance.

To explore this strategic dimension, we need to focus more directly on how firms allocate resources to ESR. This objective can be accomplished by considering the incentives firms have to respond to stakeholder demand for ESR (e.g.,

from customers, employees, suppliers, taxpayers, government, and community groups) as well as the strategic advantages associated with satisfying such demand.

Issues to Consider in Strategic ESR: Information Asymmetry, Product Differentiation, and Advertising

As noted in McWilliams, Siegel, and Wright (2006), asymmetric information makes it difficult to study the antecedents and consequences of ESR. For instance, managers may be concerned that certain stakeholders, such as employees or community groups, are uninterested in or perhaps even hostile to the argument that the firm's environmental performance is linked to higher profits. Therefore, managers are likely to perceive that ESR activity will be viewed more favorably if it is divorced from any discussion of the bottom line.

With this in mind, corporate executives may not wish to publicize the instrumental use of ESR. Thus, managers are not likely to reveal the more practical motivations (e.g., product promotion, cost control, and reputation building) behind their ESR activities, especially in corporate publications such as annual reports. This lack of transparency has also made it difficult to identify and explain numerous motivations for ESR, which could be private or social.

International and cultural differences in institutions regulating market activity, such as corporations, unions, and social agencies, also make it difficult to assess the strategic implications of ESR. Such heterogeneity leads to divergent expectations regarding ESR and different returns to such activities. For multinational companies, these differences further complicate the process of determining which activities to engage in and how much to invest. We will be able to more accurately assess the strategic returns to ESR as information regarding global ESR improves.

Institutional intermediaries can also influence consumer and investor perceptions regarding environmental performance. Doh, Howton, Howton, and Siegel (2009) noted that stakeholders can assess the environmental reputation of firms

from a variety of institutional ratings and rankings. These include more general corporate social responsibility ratings compiled by magazines (e.g., *Fortune's* Reputation Survey) and social responsibility indices, such as the Domini Social Index, the Calvert Social Index, and most notably in the context of environmental performance, the Dow Jones Social and Sustainability Index. Such indices provide valuable information for investors who wish to construct portfolios consisting exclusively of firms that conform to a high level of environmental performance.

Others have focused attention on the relationship between ESR and information asymmetry regarding product quality, which is often important when the firm is pursuing a differentiation strategy. Economists distinguish between two types of product differentiation: vertical and horizontal. Vertical differentiation occurs when there is a clear hierarchy of product quality, so that almost all consumers will prefer one product to another. For example, almost all consumers will prefer a Mercedes to a Hyundai. Also, given the same characteristics/features, most consumers would prefer to own a more fuel-efficient vehicle.

In the context of ESR, such a situation could occur when it is clear in the mind of consumers that the product with an ESR characteristic is better than the product without such a characteristic. For example, a hybrid version of a Honda Accord generates less pollution than a standard Honda Accord. Thus, it is clear to most consumers that the hybrid car is better than the standard model. Some consumers are willing to pay a price premium for the hybrid car, given that they value the social characteristic of reduced pollution. This type of differentiation can strengthen or maintain the reputation of the firm, which adds value in addition to allowing the firm to satisfy a particular market demand (Fombrun & Shanley, 1990).

In contrast, horizontal differentiation occurs when there is no clear hierarchy of products. Some consumers prefer a given product, but this preference is based on taste, not quality. For example, some consumers choose a particular vehicle because of its color. This type of differentiation does not contribute to the reputation of the firm and does not allow the firm to charge a premium

price. Horizontal differentiation also applies to brands. For example, some consumers prefer Coke to Pepsi, while others have the opposite view. The concept of horizontal differentiation may also apply to ESR, since some consumers may not have a particular preference between two brands, but will choose one on the basis of superior environmental performance.

A key problem, in terms of valuing ESR, is that consumers may not be able to determine whether a company's internal operations adhere to their standards for ESR. The level of asymmetric information regarding internal operations may be mediated by the firm itself, by activists, or by additional third parties (e.g., journalists). For instance, companies such as Wal-Mart, Starbucks, McDonald's, and Motorola publish annual reports on ESR. One can view this activity as a form of advertising, especially for more general types of ESR. While this information may be useful, some consumers perceive this information to be biased, since it is reported by senior management. This difficulty may be mitigated by activists who play an important role in providing consumers with information they can rely on to choose environmentally socially responsible firms (Feddersen & Gilligan, 2001). However, since many activists advance an anticorporate agenda, their reporting may also be biased. Thus, they might downplay the positive attributes of firms in favor of negative ones. Some companies also have a "social audit" conducted, often using an independent auditor to examine the relationship between the firm and its stakeholders. Although reporting by firms and activists conveys information about environmental and social responsibility, there is still considerable information asymmetry between those groups and stakeholders.

The relationship between ESR and advertising is an interesting one, and bears further reflection. Several stylized facts relating to industry evolution and the nature of advertising are useful to consider. The first is that we expect levels of investment in ESR to be higher for established firms in more mature industries since the extent of product differentiation will be greater in such sectors. In these industries, consumers will typically have more sophisticated tastes and knowledge regarding products and firms. It is clear that such companies are likely to derive

greater benefits from the use of ESR for reputation enhancement/protection. Second, if some forms of ESR must be advertised, then it is important to distinguish between persuasive ESR advertising and informational ESR advertising. Persuasive ESR advertising attempts to positively influence consumer tastes for products with ESR attributes. It follows that this type of advertising need not be firm-specific since the cultivation of ESR tastes would result in decisions to purchase products at a variety of firms, and possibly even from competitors. Informational ESR advertising merely provides information about the ESR characteristics or ESR managerial practices of the firm, and as such, is quite similar to ESR reporting. Following Milgrom and Roberts (1986), one could also view a high level of ESR advertising (either persuasive or informational) as a signal of product or firm quality. The reason is that established firms and companies in more mature industries are more likely to invest in ESR, because they tend to engage in more product differentiation.

Environmentally socially responsible investing constitutes another type of product differentiation. Stocks can be regarded as a type of financial product purchased by investors. Just as many consumers have a preference for the value added to a product by an ESR attribute, so do many investors. Further analysis of the difference between consumer and investor product differentiation will yield varying results about the role of company and industry maturity in the viability of ESR strategies.

Other studies focus specifically on the relationship between the type of good or service the firm is selling and its propensity to engage in ESR. McWilliams and Siegel (2001) specifically advanced the hypothesis that a firm selling an experience good is more likely to engage in ESR than a firm producing a search good. Experience goods must be used or consumed before their true value to the consumer can be determined. Examples of experience goods and services are automobiles, appliances, weight control programs, and mutual funds. Advertising of experience goods will stress the reputation of the firm for high quality. On the other hand, search goods and services are readily evaluated prior to purchase, and most advertising will involve information about product availability and price. Clothing,

footwear, and furniture are typically cited as examples of search goods.

It is also possible that the form of ESR is tailored to the type of experience good the firm sells. Thus, some firms may find it advantageous to engage in a more publicly visible type of ESR. Such public ESR might entail adopting green purchasing policies and other sustainability initiatives, such as the construction of LEED¹ gold or platinum buildings, which are likely to attract public attention and signal environmental social responsibility. For example, some potential customers of a bank (classified here as an experience service) may be more concerned (at the margin) about the organization's charitable donations to specific causes in the local community or its family-friendly employment policies than about attributes of service quality or honesty.

The concept of experience and search goods and services is generally attributed to Philip Nelson (1970, 1974), who developed a taxonomy of such goods and services that was extended by Liebermann and Flint-Goor (1996). Lancaster (1981) noted that consumers of high-quality products have the strongest demand for product information because while low price typically signals relatively low quality, high price may not signify high quality. Given that affluent consumers are most likely to demand high-quality goods and services, ESR as a signal of product quality is likely to be associated with upscale goods and services that typically generate higher profit margins.

Siegel and Vitaliano (2007) extended insights from models developed by Bagnoli and Watts (2003) and McWilliams and Siegel (2001). Specifically, the authors conjectured that consumers view ESR activity as a signal about the attributes of the private good sold by the firm. That is the reason why experience goods are more likely to be associated with ESR. A key empirical implication of the theory of the firm perspective on ESR is

that firms selling experience or credence goods² are more likely to be socially responsible than firms selling search goods. Using firm-level data, Siegel and Vitaliano presented evidence that is consistent with this hypothesis.

Issues to Consider in Strategic ESR: Impact of ESR on Industry Structure and Entry Barriers

Another critical issue in the provision of ESR concerns its relationship to the market structure of the firm's industry. A key conclusion of the McWilliams and Siegel (2001) paper was that, in equilibrium, firms that engage in ESR will earn the same rate of profit as firms that do not engage in ESR. In a subsequent paper, McWilliams and Siegel (2002) demonstrated that ESR can occur in monopolistically competitive and oligopolistic industries. A monopolistically competitive industry consists of numerous firms, some product differentiation, and relatively free entry. Examples of such sectors are restaurants and retail establishments. On the other hand, oligopolies are characterized by a consolidated industry structure, high entry barriers, and substantial product differentiation (e.g., autos and computers).

I believe that the inability of firms to generate abnormal returns from ESR, on average, holds under both oligopoly and monopolistic competition. This is implied for monopolistic competition because industries with such a structure are characterized by both horizontal and vertical differentiation, a fragmented industry structure, and very low entry barriers. Under this scenario, it is impossible for firms to use ESR to outperform rivals. Examples of firms in monopolistically competitive industries that engage in ESR include restaurants, hotels, companies selling organic produce, and different types of retail establishments.

The neutrality result likely holds for concentrated industries (with an oligopolistic structure)

¹ Leadership in Energy and Environmental Design (LEED) is an internationally recognized certification system that measures how well a building or community performs across a number of metrics: energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources.

² The economics of advertising (see Nelson, 1970, 1974) has identified three types of goods or services: search, experience, and credence. A search good is a product or service whose features and quality can be accurately assessed before purchase (e.g., clothing). An experience good is a product whose true quality can be known only while it is being consumed, such as an automobile. A third category is the credence good, whose true quality can be observed only many years after consumption (e.g., a complex surgical procedure).

as well, where some firms produce a higher quality product that may yield “abnormal” returns. These abnormal returns may constitute the cushion of profit that enables the firm to engage in ESR. However, recent economic models of ESR (Baron, 2001; Feddersen & Gilligan, 2001) identify an important countervailing force on the ability of companies to reap abnormal returns from strategic ESR in oligopolistic industries: activists and NGOs who target leading firms (e.g., the attack on Gap Inc.’s and Nike’s Asian production). This countervailing force makes it difficult for oligopolistic firms to achieve and sustain a competitive advantage through the strategic use of ESR because their rivals are continually forced by activists and NGOs to employ a comparable level of ESR.

In a similar vein, Reinhardt (1998) found that a company engaging in an ESR-based strategy could generate an abnormal return only if it could prevent competitors from imitating its strategy. In most industries (whether fragmented or concentrated) this is unlikely, since ESR is highly transparent, with little causal ambiguity. In fact, the strategic necessity of communicating information about ESR to consumers via reporting and advertising enhances transparency, thus eroding competitive advantage.

Other theoretical studies (Dutta, Lach, & Rustichini, 1995; Hoppe & Lehmann-Grube, 2001) have shown that any early-mover advantages that might be gained by offering higher quality products (recall that ESR is modeled as a “quality improvement” in McWilliams and Siegel, 2001) are eroded when competitive strategies are observable. However, various strategies can be deployed to counteract this loss of first-mover advantage brought on by transparency. For example, Porter and Kramer (2002) suggested that corporate philanthropy can invite loyalty to the company and other benefits that are uniquely valuable to the company.

Issues to Consider in Strategic ESR: The Relationship Between ESR and Governmental Regulation

ESR may also be used in the context of political strategies that create regulatory barriers to imitation. Indeed, many critics of corporations claim that large firms can influence or even shape

the rules of the game with respect to public policy. One such strategy would be for firms to use government regulation to impose ESR on rivals who do not employ an appropriate technology, thus raising the costs for those rivals relative to the initiating firm. Marvel (1977) described an example of this type of political strategy in the British textile industry in the early 1800s (on a nonenvironmental issue). The first child labor law was enacted in the United Kingdom after the mill owners who employed modern technology banded together and lobbied for restrictions on child labor, which was used more by the older, smaller mills. McWilliams, Van Fleet, and Cory (2002) applied the RBV framework to demonstrate how U.S. firms could use political strategies based on social responsibility to raise regulatory barriers that prevent foreign competitors from using substitute (e.g., low labor cost) technology. In its recent survey of CSR, *The Economist* (2005) denounced such political strategies as a form of “hobbling the competition,” and labeled such behavior “pernicious CSR.” From an economic perspective, such political strategies harm society over the long run by deliberalizing the market, and thus restricting competition and productivity.

It is important for managers to be mindful of public perceptions regarding ESR, since they can shape the legislative landscape. In recent years, economists have conducted numerous studies of the effectiveness of voluntary programs initiated by government or industry, such as the adoption of environmental management systems (Paton & Siegel, 2005). These systems are designed to evaluate and manage an establishment’s environmental impact and responsibility, using a structured, systematic approach, with continuous improvement.

Management scholars have also recently devoted considerable attention to examining efforts undertaken by firms to engage in environmental self-regulation (e.g., Barnett & King, 2008; Christmann & Taylor, 2001, 2002; Delmas & Terlaak, 2002; King, Lenox, & Terlaak, 2005). Firms can voluntarily implement environmental management systems such as the ISO 14001 standard and achieve certification by independent third-party auditors. ISO 14001 allows companies to signal their environmental responsibility to

customers, which allows these customers to factor in the level of ESR of their suppliers in their purchasing decisions (Christmann & Taylor, 2002; Terlaak & King, 2006).

Some of these efforts are industry specific and industrywide. A good example is the Responsible Care program, established by the chemical industry in the aftermath of the Bhopal disaster in India. King and Lenox (2000) examined the antecedents and consequences of this program, which was allegedly designed to forestall additional regulation. Interestingly, the authors reported that participation in the Responsible Care program was *negatively* associated with improvement in environmental performance. They also found evidence of free-riding by nonmembers (those who were not involved in the program), although these nonmembers actually improved their environmental performance. These findings imply that voluntary programs must be carefully designed and monitored to avoid moral hazard or cheating. Maxwell, Lyon, and Hackett (2000) demonstrated both theoretically and empirically that ESR could be used to forestall additional government regulation. However, they found that such coordination efforts become more severe as the number of firms in the industry grows due to free-rider problems.

Finally, Baron and Diermeier (2007) focused on firm-specific initiatives to engage in self-regulation in order to avoid the pernicious effects of a negative ESR-related action. They found that firms have an incentive to self-regulate to prevent a consumer boycott by a nongovernmental organization (NGO). The authors used the example of the Rainforest Action Network's campaign against Home Depot. As a result of this campaign, Home Depot purchased a smaller percentage of "environmentally unfriendly" hardwood in order to protect the rainforest.

Issues to Consider in Strategic ESR: The Role of CEOs

It is important to note that most empirical studies of ESR have ignored the role of corporate leaders in formulating and implementing such initiatives. Most research has been focused at the firm level, typically examining the relationship be-

tween ESR and firm financial performance. Unfortunately, there has been little research at the individual level (e.g., factors pertaining to individual decision makers), or on how such variables might relate to ESR. In particular, top-level managers are obviously in a position to influence these policies.

In recent years, scholars have explored the relationship between ESR and CEOs. That is entirely appropriate as corporate leaders typically formulate such policies and often are actively involved in promoting the ESR activities of their companies. An example is William Clay (Bill) Ford, Jr., of Ford Motor Company, who formulated a "hydrogen strategy" for his company that was designed to make Ford the environmental leader in the industry (Muller & Fahey, 2004).

The first study of the relationship between CEO leadership and ESR was conducted by Waldman, Siegel, and Javidan (2006). The authors linked data from psychometric studies of CEOs with information on the environmental and social performance of companies. They reported that the "intellectual stimulation" dimension of transformation leadership is strongly positively correlated with the propensity of firms to engage in strategic ESR. A key implication of this finding is that studies ignoring the role of leadership in ESR may yield imprecise conclusions regarding the antecedents and consequences of such activities.

A recent insightful paper by Sully de Luque, Washburn, Waldman, and House (2008) further explored the relationship between corporate social responsibility (including ESR) and various dimensions of leadership. Interestingly, they also assessed the outcomes of relationships between leaders and followers, as related to the CEO's "stakeholder values." Specifically, they found that CEOs possessing values stressing the concerns of a wide range of stakeholders (e.g., employees, customers, environmental groups, and the greater community) are likely to be viewed as visionary/inspirational leaders. In turn, as compared to CEOs with weaker stakeholder values, these leaders are more likely to elicit extra effort on the part of followers as well as stronger financial performance. In sum, their study suggests that organizations with inspiring, transformational leaders pos-

sessing strong stakeholder values tend to have superior social and financial performance.

Conclusion

Recent research indicates that a firm's decision to engage in ESR is a strategic choice and that both individual-level and organizational factors are critical to understanding the antecedents and consequences of these decisions. Table 2 presents some strategic goals and tactics that can be employed by organizations interested in engaging in strategic ESR, as suggested by the academic literature. I also identify the functional areas affected by these strategic choices. Thus, if a company wishes to increase market share it can use ESR to promote product differentiation (which I call "ESR product innovation") and advertise these new environmentally friendly characteristics or features. These ESR actions may enhance the firm's reputation, which could help build brand loyalty. The key functional areas affected by such activities are marketing, R&D, operations, and corporate headquarters (lobbying).

Note that the goals and tactics presented in Table 2 are not orthogonal. For instance, tactics employed to increase productivity, such as adopting an environmental management system, may also enable the company to increase its share price, if such an adoption induces environmentally oriented investors to favor the company's stock. Similarly, using ESR to boost worker mo-

rale may also enhance the quality of human capital, since it can help the firm recruit and retain high-quality employees.

An ESR initiative should be viewed as an investment decision, and thus should be evaluated in a rational, calculative fashion. Financial and human resources allocated to ESR have alternative uses, and managers must be mindful of the "returns" on these activities. Managers should not adopt green management practices because of societal pressure alone, but rather because it advances their organization's strategic goals. The extent of management's accountability to society should be reflected in existing rules and regulations. Managers must not lose sight of the fact that they are directly accountable to shareholders, who are the most important stakeholder of the firm.

Given the rampant agency problems in large publicly traded companies, we should be skeptical about policies that encourage managers to allocate resources to ESR without a clear sense of the return on investment to these activities. Managers have an obligation to deploy the firm's resources as effectively as possible, based on instrumental thinking, to maximize the wealth of the firm.

In sum, firms should pursue green management practices only when it is in their self-interest to do so. It is here where I strongly differ with my good friends Alfie Marcus and Adam Fremeth (see accompanying article in this issue), who state that ESR must be pursued "for moral and social rea-

Table 2
Strategic Goals and Tactics Associated With Engaging in Environmental Social Responsibility (ESR)

Strategic Goals	ESR-Related Tactics	Key Functional Area(s) Affected
Increase market share	Advertising of ESR; ESR product innovation (developing new green products); use of ESR to raise rivals' costs	Marketing, R&D, Operations
Increase productivity	ESR process innovation (e.g., adoption of an environmental management system, such as ISO 14001); use of ESR to boost worker morale	Operations, R&D, Human Resource Management
Enhance human capital/worker quality	Use of ESR to recruit and retain high-quality employees (workers and managers); hiring CEOs (and other corporate executives) with an ESR orientation	Human Resource Management, Corporate Headquarters
Develop more favorable industry conditions (reduce actual and potential competition)	Use of ESR to raise rivals' costs; engaging in self-regulation (to forestall additional regulation)	Corporate Headquarters (Lobbying), Operations, R&D
Increase share price	Use of ESR to court investors concerned about the environment (e.g., ESR annual report)	Finance, Accounting, Corporate Headquarters

sons,” regardless of whether it pays. To engage in ESR for these noninstrumental reasons would constitute an example of what I have called “irresponsible” leadership (see a debate on how to define a “responsible” leader in Waldman and Siegel, 2008). Given the numerous strategic advantages associated with engaging in such activity, we are still likely to witness a high incidence of ESR, even if it is conducted only for instrumental reasons.

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