

The importance of cultural framing to the success of social initiatives in business

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Executive Overview

The unique nature of social initiatives, such as projects for environmental protection, diversity, or community development, poses particular challenges for those who wish to get them on the organizational agenda. How do their proponents both legitimize and gain action on these initiatives—activities that involve tapping into existing organizational beliefs, or cultural frames—when an organization has historically considered such issues to be outside its realm of concern? We identify eight possible cultural frames that may be used to motivate corporate action on social initiatives, and we illustrate the use of one frame through a case study of a high-technology manufacturer addressing a particular environmental problem. We use the case to identify framing tactics which proponents of social initiatives can use to best advance such issues in their organizations. These include using the metrics and language of relevant functional groups to assign responsibility for the problems, engaging the standard routines or approaches used in such groups, and using the culturally appropriate public and/or private channels to communicate the issue, eventually gaining allies in these groups. We conclude with a discussion of the implications of cultural framing for organizational change and for the broader debate on the connection between financial and social performance.

Introducing Social Initiatives As Business Issues

How does an engineer convince her plant management to invest in an environmental improvement project? How does an employee of a multinational corporation implement a community-based literacy program in a developing nation? The challenge that proponents of such organizational initiatives face is to make their projects count in the eyes of those in the broader organization and then to mobilize resources to work on them. Too often, however, social initiatives falter because their proponents take for granted that the value of their programs is apparent to others, they fail to adopt the business metrics and language that are employed by other parts of the organization in communicating that value, or they use non-business metrics focused on social welfare which are familiar to their external constituency but serve to distance other business managers from their objectives.¹ In short, they fail to leverage the organization's culture to mobilize action.

In this article, we argue that social initiatives become successful when they are aligned with an organization's core culture because culture guides both *what* issues get attended to and *how* they get acted upon. While successful implementation of social initiatives involves moving the organization beyond its current practices, it also must tap into accepted ways of representing problems and enacting solutions.²

The idea that effective strategies must align with an organization's culture is not new.³ Nor is the idea that managers must "sell" their initiatives to upper management, particularly when resources are limited.⁴ What is new in this article is an application of these ideas to the implementation of *social initiatives* in business, an area of corporate action that holds distinct management challenges that are different from traditional corporate concerns.

First, social initiatives are different because they will never replace the organization's core ob-

jectives. While they are recognized as increasingly important by outsiders, and are increasingly moving within organizational boundaries, they will always be in some sense peripheral to an organization's core goals and addressed not as ends in themselves but as means to other ends. They become important for how an organization pursues its core objectives, not for what those objectives are. A multinational retailer, for example, may become a provider of educational and health services, but only in countries where its products are assembled. While such initiatives may enhance the productivity and commitment of its employees, and may even be essential for it to retain its socially sanctioned right to operate, they will only be implemented if they help the company maintain or improve its core capabilities of manufacturing, distributing, and selling its products.

Second, social initiatives often reflect or create opportunities for people to find meaning through their work by bringing their personal values into the workplace and promoting social change.⁵ Since the 1990s, the Conference Board notes, "Younger managers and their families began making demands on top management that previous generations would never have dared to do."⁶ These managers are emerging as a new workforce demographic who question authority, hold a strong concern for basic values, and feel a strong sense of freedom to act on those values.⁷ Social initiatives may be very important to such managers because they may reflect strongly held values.⁸ Such issues may take on greater moral significance, becoming at times "sacred," such that people are more likely to defend them when challenged and less willing to "sell" them by monetizing their value as is typical in corporate settings.⁹ With, for example, nearly three-quarters of Americans identifying themselves as environmentalists, an ever-growing fraction of the workforce made up of women and ethnic minorities, and the forces of globalization bringing multicultural interests into contact, it is unrealistic to think that matters of environmental protection, diversity, or social equity will remain peripheral to those who work on them in an organizational setting. Indeed, the growing presence of work-life balance initiatives and the idea that individuals can express and develop both personal and professional identities at work suggest that insiders as well as outsiders are driving social issues onto organizational agendas.¹⁰ Social issues are moving from the outside to the inside of the organization.

Finally, social initiatives, while not new in the business arena, have taken on greater significance in recent years. Three decades ago economist Milton Friedman argued that any company

"eliminating discrimination, avoiding pollution, and whatever else might be the catchwords of the contemporary crop of reformers" is practicing "pure and unadulterated socialism."¹¹ But recently, such issues have become more prominent features in business practice. Issues that have been on organizational agendas for a long time—like equal employment opportunity and environmental protection—are now moving from being treated as matters of legal compliance or social responsibility and are instead becoming issues for strategic engagement. Today, for example, 45 per cent of the top 250 Global Fortune 500 companies produce environmental, social, or sustainability reports in addition to financial reports.¹² Such reports are being driven by changes in the business environment; social issues are a growing concern within trade associations, investor groups, communities of voters, advocates and jurists, consumers, insurance companies, banks, suppliers, and buyers. Whether managers recognize it or not, these shifts are a sign of how both the business environment and their roles have changed.

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In the rest of this article, we introduce a framework for understanding how social initiatives are framed, or represented and acted upon, within organizations. Then we narrow our focus to environmental issues and outline eight possible frames that members of organizations can use to act on them, illustrating their use in practice through a detailed case study of a major semiconductor manufacturer, "Chipco,"¹³ (a pseudonym). Finally, we discuss the implications of cultural framing for managerial action, organizational outcomes, and the broader debate on the connection between financial and social performance.

Using Cultural Frames for Successful Implementation of Social Initiatives

"Cultural frames" refer to the shared meanings held by individuals that shape their understanding of situations and guide their actions within an

organization. We describe such frames as cultural to emphasize that they are constructed and maintained through a collective process and are not merely individually held beliefs.¹⁴ Organizational cultures can be very powerful in shaping shared beliefs because, as March and Simon observed, "the particular categories and schemes of classification [an organization] employs are reified and become, for members of the organization, attributes of the world rather than mere conventions."¹⁵ Cultures not only give their members a way of making sense of what surrounds them, but they also serve as a system of classification delineating what is normal versus abnormal and what should be acted upon versus what should be ignored.¹⁶ Cultures give decision-makers the tools and models to reduce the complexity of issues they face and to construct strategies for action that are suitable for their environments.¹⁷ Specific elements of culture can include vocabulary, rewards, protocols, performance metrics, structures of coordination and control, and other artifacts.

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Cultural framing is the process of constructing or using frames to legitimate and propel action within an organization. Distinct tasks are involved in cultural framing, including using cultural frames to diagnose a situation or problem and using them to mobilize action or enact a solution.¹⁸ Several scholars have noted that certain social issues, such as diversity and workplace discrimination, are diagnosed in different ways within different organizations, or among different groups within an organization, and hence spur different actions.¹⁹

Organizational members seeking to inspire action on social initiatives must ensure that there is "frame alignment" between their presentation of the social initiatives and the dominant cultural frames within the organization.²⁰ No prescription will work in every situation as every company has its own unique culture, yielding its own conception of what constitutes a problem or opportunity and what constitutes a strategic initiative. But in order for its proponents to advance a social initiative, they must present it in a way that aligns closely to existing elements of the culture, including coordination structures, reward systems, and job responsibilities.²¹ So, for example, a consumer-product-

oriented company like a cosmetics producer and retailer may most effectively respond to social issues when they are framed as consumer demand. A producer of basic commodity chemicals, on the other hand, may best respond to social issues framed as operational efficiency. A product-development company may frame social issues as an unexplored strategic opportunity.

Proponents of social issues can identify functional groups within their organizations that are most likely to accept a given frame. They can, as the Chipco case to be presented shortly illustrates, create formal and informal channels for interaction with the relevant groups, learn and adopt their language and performance metrics when communicating the nature of the issue, and engage some of the group's own standard routines and practices when developing or implementing solutions.

In the next section, we narrow our focus on social issues to use the example of environmental management to identify eight cultural frames that are being applied by proponents within organizations. Our focus on the social issue of environmental protection is motivated first by the fact that such issues are longer-lived than many other social issues, having been on the corporate "radar screen" for more than thirty years. Second, they present a distinct blend of social and technical elements that possess broader impact than other corporate social issues. They have social dimensions similar to issues such as gender equity, affirmative action, or labor relations. And they have technical and economic dimensions similar to strategic issues such as consumer demand, material processing, or competitive strategy. Therefore, they provide a rich source of data and examples, presenting a broader array of possible cultural frames. While the particular frames we present are not exhaustive, nor may they be relevant to every social initiative, they highlight the kind of reorientation that needs to take place for individuals to both frame social initiatives as relevant and to get action on them through pursuing solutions in a culturally consistent manner.

Framing Social Initiatives: Examples from Environmental Management

Looking back over the past three decades, the two cultural frames that have been traditionally used to motivate corporate environmental initiatives are *regulatory compliance* and *social responsibility*. In each of these frames, the motivations for action are primarily external, and action is motivated largely by the threat of either legal sanction (civil, administrative, and criminal penalties) or social sanction

(protests, negative press, diminished reputation and image). The resulting environmental practices are predicated on buffering the organization's operating core and managing these sanctions as separate issues.

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Recently, however, leading companies have begun to assert that environmental considerations have become a fundamental part of business strategy.²² This trend triggers a more complex set of strategic responses than have been traditionally invoked. Environmental protection has become less an issue of sanctions delivered by external actors and has started to become instead an issue that reflects the cultural interests, beliefs, and perspectives of the company itself. In other words, the potential for alignment between the corporate culture and frames used to motivate action on the social issue has increased.

In addition to regulatory compliance and social responsibility, we draw from business sources to identify six other strategic frames by which alignment may be achieved.²³ These include: operational efficiency, risk management, capital acquisition, market demand, strategic direction, and human resource management. In practice, several of these frames may be operating simultaneously in a given organization, and some frames will be more salient within certain groups than within others. Table 1 shows the types of organizations where each frame may be prevalent and the groups in which the frame is most likely to reside. The exact form that the frame takes, and its presence or absence, is ultimately an empirical question determined by analyzing the culture of an organization, but the table and discussion of each frame given below suggest some expected patterns.

Environmental Protection As Operational Efficiency

In this frame, environmental protection is a tool for optimizing operations by minimizing wastes, emis-

Table 1
Cultural Frames for Strategic Environmental Initiatives

Frame for Environmental Protection	Organizations in Which Frame May Be Prevalent	Groups in Which Frame Is Most Likely to Reside
Operational Efficiency	Manufacturing companies, especially those with mature processes where cost competitiveness is important Time-sensitive manufacturing companies, where time-to-market is a source of competitive advantage Shipping- or transportation-intensive industries (business-to-business or business-to-consumer)	Operations (Manufacturing) Operational Support (Factory Systems; Environment, Health & Safety) Research & Development (Process Designers and Product Designers) Logistics
Risk Management	"High-hazard" industries where accidents can do significant environmental harm (e.g., oil exploration and transportation, chemical manufacturing)	Risk Managers Legal
Capital Acquisition	Fast-growing industries Resource extraction industries Multinationals siting facilities overseas	Facilities Planning and Acquisition groups Construction
Market Demand	Consumer-product manufacturers Consumer-product retailers Consumer-service providers	Marketing, Advertising, Sales Research & Development (primarily Product Designers)
Strategic Direction	Companies in traditionally high-polluting industries, especially those where new approaches are on the horizon Start-up companies with new environmentally favorable technologies	Senior Management Team Research & Development (Process and Product Designers)
Human Resource Management	Companies in traditionally high-polluting industries where worker exposure is possible Organizations employing highly skilled individuals or professionals (where cost of turnover is high)	Human Resources Environment, Health & Safety Training

sions, or discharges and reducing the burden (in terms of cost or time) of regulatory compliance. Such reductions may also reduce the cost of waste control engineering and management, or disposal. Process optimization can improve material yield and resource utilization rates and thereby reduce costs per unit of product produced. It can also reduce liability costs from potential spills and health and safety exposures. Framed as operational improvements, environmental initiatives can be used to reassess taken-for-granted engineering practices, rules of thumb, and protocols, and potentially avoid costly, time-consuming, or sub-optimal "add-on" solutions developed after a manufacturing process is designed.

For example, the Balzers Corporation, a manufacturer of parts used to produce optical components, semi-conductors, and compact discs, faced a regulatory compliance problem in 1991. The company used organic solvents to clean parts before shipment, and the Environmental Protection Agency had fined the small company \$17,000 for leaks in its system. Repeated attempts to reduce the number of leaks were unsuccessful, and compliance problems persisted. Finally, the company approached its suppliers for help in developing a new cleaning process that used a water-based cleaning solution. Installed in 1993, the new system eliminated the use of organic solvents, posed no threat to employees, eliminated hazardous discharges, and resulted in no change in customer satisfaction. Furthermore, operating costs of the new system were half those of the old system.²⁴

Some companies' operations may focus more on the transportation or distribution of goods, rather than their production. In these cases, framing environmental protection as operational efficiency entails reducing the cost or improving the quality of transportation by altering the volume or type of packaging material, or product size and weight. Streamlining operations by consolidating shipments may improve customer service, reduce costs, and reduce environmental impact.

For example, Procter & Gamble's concentrated detergents have saved 304 million pounds of packaging material since 1992, reducing both production and shipping costs. Tom Rattray, associate director of environmental quality at Procter & Gamble, states, "We're not doing it because it sells soap in Cincinnati. We're doing it because it's the right thing to do and saves money."²⁵

Environmental Protection As Risk Management

Framed as risk management, environmental protection becomes an opportunity to reduce costs

associated with environmental risks. First, limiting environmental exposures to employees, contractors, and customers can directly lower corporate insurance premiums. Second, environmental risk management strategies may reduce the need and associated costs of contingent emergency procedures, responses, or cleanup in both the short and long term. And finally, incorporating environmental considerations into initial product design programs may reduce the potential for ongoing liabilities associated with product use, misuse, and disposal.

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The growth in brownfield redevelopment projects is an example of environmental management framed as risk management. "Brownfields"—development sites within urban settings that have been previously used and may contain hidden environmental hazards (as opposed to "greenfields" which are development sites previously unused)—can present both serious opportunities and serious threats. Entrepreneurs who specialize in understanding, quantifying, and managing the risks are being employed by organizations seeking to mitigate the risk and increase the financial opportunities in brownfield development.²⁶

Environmental Protection As Capital Acquisition

In this configuration, environmental protection is framed as an opportunity to reduce costs of capital investments in new sites, facility construction, and when starting up or redesigning manufacturing lines and products. Integrating environmental considerations into the capital acquisition and change processes may reduce the uncertainty of corporate transactions. Environmental due diligence activities may uncover hidden environmental liabilities in property acquisitions and divestitures. Intervening in capital projects early to secure permits, address regulatory requirements, and foresee environmental problems may streamline new product development or facility expansion. This frame resonates in the banking industry where a declaration of environmental commitment notes that "environmental risks should be part of the normal checklist of risk assessment and management."²⁷ In a survey of European banks, 15 participants said

they offered discounted rates for environmentally responsible companies, shaving as much as 50 basis points from the rate and halving the fees.²⁸ And North American bankers, including Bank of America, Salomon Inc., and Royal Bank of Canada, have launched an advisory group to develop a set of environmental operating principles for commercial and investment banking, fund management, leasing, and insurance companies.²⁹

Environmental Protection As Market Demand

Framed as market demand, environmental protection is an opportunity to enhance the market share for products and services by appealing to both end-use customers or buyers and up-front suppliers or vendors. First, companies may appeal to environmentally conscious consumers by increasing recycled or recyclable material use, reducing virgin material use, eliminating hazardous product constituents, and decreasing the environmental impact of their products. Such green marketing efforts may enhance the company's public image and the marketability of its brand name. Second, high environmental performance standards may also appeal to suppliers and buyers who may be seeking strategic advantage through their own environmental initiatives. Through this framing, environmental considerations become one aspect of the value offered by a company.

For example, while organic foods may have benefits for the environment and personal health—they are free from artificial preservatives, coloring, irradiation, synthetic pesticides, fungicides, ripening agents, fumigants, and growth hormones and are harvested with sustainability concerns in mind—companies are selling them because they represent a growing market segment and an opportunity to increase market share through strategy redirection. Sales doubled from 1989 to 1994, from \$3.9 billion to \$7.6 billion. The most recent statistics available from 1999 showed an annual 14 per cent increase in grocery store square footage dedicated to natural and organic products.³⁰ In another example, Electrolux has developed environmental products including a solar-powered lawn mower, chain saws lubricated by vegetable oil, and water-saving washing machines, which the company says generated 3.8 per cent higher profits in 1997 than its conventional products.³¹

Environmental Protection As Strategic Direction

Framed in this way, environmental protection is argued to expose important information and insights for guiding new strategic directions. This

framing can manifest itself in a number of ways. First, by measuring environmental costs and risks associated with product or process lines, companies can identify strategic opportunities in redirecting attention and resources towards less risky and more attractive alternatives. Second, by remaining alert to changes in consumer preference, media attention, community concerns, and regulatory program trends, companies can exit increasingly risky business areas in favor of more secure options. Third, by attending to these trends, companies can also exert greater control over their image, reputation, and, ultimately, financial performance by shifting organizational resources when needed. And finally, as markets and industries rapidly change, corporate environmental attributes and performance may help secure new markets and protect existing ones from external criticism, protest, and attack. Through this framing, environmental protection programs may create strategic opportunities through enhanced innovation and capitalization on both existing and emerging markets.

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For example, the Ford Motor Company announced in 1999 its intention to become the world's largest recycler of automobile parts. The project is being driven by expectations that auto-recycling regulations (already a reality in Europe) will increase and by insurance company demands to use recycled parts in automobile repairs. By acquiring existing recyclers and developing central recycling centers, Ford expects the recycling subsidiary to add \$1 billion annually in revenues. Ford's goal is to recycle or re-use at least 90 per cent of every vehicle and use the Internet to sell parts (such as windshields, body panels, engines, and transmissions) or recycled materials to repair shops and its own suppliers. Eventually, Ford plans to link its recycling division with its entire value chain as part of a larger plan to be involved in the vehicle's life cycle beyond development and assembly.³²

Environmental Protection As Human Resource Management

Finally, improved environmental performance can be framed as an opportunity to increase workplace

productivity. A strong environmental reputation as well as environmentally safe working conditions may help companies attract and retain higher-caliber applicants. This reduces the costs of recruiting and training for new employees. Novo Nordisk, a Danish pharmaceuticals company, has seen its turnover rate drop to five per cent, half the industry average, since it initiated its "Values in Action" program as a way to infuse sustainability principles into its strategy.³³ Improved working conditions may also increase worker productivity and output. Improved indoor air quality, reduced noise levels, and energy-efficient lighting upgrades have been found to reduce absenteeism and improve staff morale and productivity.

Using Cultural Frames

What we wish to convey in this article is more than semantics and terminology. The frames and examples given above suggest that different organizations with different concerns will use different cultural frames. But cultural framing is a complex interaction of terms, rewards, structure, and protocols that have meaning within the organization. To fully illustrate the importance of cultural framing to the success of social initiatives, we move from a general discussion of possible cultural frames for environmental issues to a detailed example drawn from an in-depth study of a semiconductor manufacturer, Chipco. (The methodology for the Chipco study is presented in Appendix A.)

Cultural framing is a complex interaction of terms, rewards, structure, and protocols that have meaning within the organization.

Semiconductor manufacturing, while not traditionally considered a "dirty" industrial activity, nonetheless makes use of a number of specialty chemicals that can be hazardous to human health and the environment. Although these chemicals are used in small quantity and in carefully controlled process steps, the disposal and handling of chemical by-products can pose unique challenges for the industry. Fluorine-containing compounds have long been important process gases, and their by-products include gases that are classified as hazardous air pollutants (HAPs) and regulated by the U.S. Environmental Protection Agency. One family of fluorine-containing gases, perfluorocompounds or PFCs,³⁴ is not considered a HAP and was in heavy use by the industry in the early 1990s

when it was found to be a potent contributor to global climate change.³⁵ Members of the industry have subsequently been working to reduce emissions of PFCs even in the absence of regulation governing global climate change gases and to keep HAP emissions in check. This work is complicated by the fact that, until recently, the best-known methods for treating PFC emissions converted the gases into HAPs. In the following example, we show how this tradeoff between emitting a global climate change gas or regulated hazardous air pollutants played out in the development of one piece of equipment for a new semiconductor manufacturing process.

A Case Study Example: A Semiconductor Manufacturer and Air Pollution

Chipco is one of the largest manufacturers of semiconductor devices, or "chips," in the United States. Its core products are microprocessors for personal computers, servers, and workstations. Consistent with the pace of innovation in this industry, Chipco substantially updates its manufacturing process roughly every two years to produce higher-performance chips. A permanent 1,500-person group, known as Manufacturing Technology Development ("Tech"), is always at work on the next manufacturing process generation, preparing it for introduction into the manufacturing facilities, or "fabs." Chipco's market success has been attributed to the speed with which it can develop and ramp up new manufacturing processes, and Tech's work is seen as critical to this success. The comment made by one Tech engineer—"if there's no new process, there's no Chipco"—reflects both the status that Tech is afforded within Chipco and the aggressive, engineering-driven culture that prevails both within Tech and at Chipco as a whole.

The legacy of continuous process innovation manifests itself in Chipco engineers' sense that they can rise to meet seemingly insurmountable technical challenges and do so in a very short time. A phrase heard often around Tech is that the group's job is to "make it work." Engineers' actions are directed toward delivering their process modules within specification, and they work with intense focus on this objective, expected to dismiss any unrelated demands on their time. Managers solicit data from engineers with which to make "data-driven" decisions on equipment selections or process improvements; meetings are not treated as opportunities for "FYIs" but as forums for work to be done. Delays in process development are considered intolerable, and all engineers are

aware of the losses that would be incurred by delaying time to market for a new product.

Managing Environmental Issues at Chipco

At the time of the case study, Chipco had voluntarily committed to an internal goal for hazardous air pollutant emissions that would allow it to attain status as a "minor source" according to federal regulatory criteria. While the voluntary adoption of this air emissions standard was regarded internally as an important commitment to the communities in which Chipco worked and a sign of environmental responsibility, it was also framed as an operational consideration. By meeting "minor source" criteria, Chipco's facilities had the flexibility to make changes to chemical use and emission production without triggering regulatory reviews with each change. A typical semiconductor manufacturing process may undergo 35 to 40 chemical changes a year as it is developed and fine-tuned,³⁶ and extensive reviews of each would be both time consuming and costly. Staying below the minor source threshold for HAP emissions was one way to support the pace and scale of process innovation that were essential for Chipco's competitive success.

A typical semiconductor manufacturing process may undergo 35 to 40 chemical changes a year as it is developed and fine-tuned.

The task of assuring continued attention to environmental goals during process design and development fell to the Environment and Chemical Systems ("EnviroSystems") group. To effectively do this, EnviroSystems needed to work closely with Tech as they were developing new process equipment and techniques. But the EnviroSystems group was very small with only eight core members, none of whom had overlapping membership with Tech. EnviroSystems remained on the periphery of Chipco's organizational structure and concerns. For the most part, the group was not well known to the majority of members of the much larger Tech group or in Chipco as a whole. Chipco, like most other manufacturers, historically had introduced environmental control technologies after the manufacturing process technologies were developed, at the "end-of-the-pipe." EnviroSystems managers worked hard to reverse this trend, but they had little real influence on Tech, often being brought into discussions late, after manufacturing process

and equipment selections had already been made. Many ongoing EnviroSystems projects were "catch-up" projects to improve or implement an environmental solution once the manufacturing process was already being transferred to the fabs.

To develop its influence in the design process, EnviroSystems established formal and informal ties with Tech through several channels. First, a formal body known as the Environmental Planning Council ("EnviroCouncil") met monthly to analyze and make decisions on environmental issues associated with the manufacturing process under development. The EnviroCouncil was chaired by an EnviroSystems manager and comprised of members from EnviroSystems, Tech, and several other groups.³⁷ The EnviroCouncil modeled its meeting procedures and planning processes after those used in similar, long-established Tech meetings.

The second formal channel for coordination was through attendance of EnviroSystems managers at one of the dozen Tech meetings held monthly to analyze and make decisions on future issues for specific process areas. EnviroSystems representatives would only attend such meetings when invited by Tech, and only when a Tech manager believed that a decision to be made had environmental implications.

Finally, informal ties existed via one experienced Tech manager who had begun to spend 50 per cent of his time working on environmental issues. He had a close working relationship with most members of the EnviroSystems group, yet his long experience and continued affiliation with Tech gave him channels of influence there. This manager had become the de facto manager for one EnviroSystems engineer and one EnviroSystems technician, even though both formally reported to EnviroSystems management. Their co-location with Tech employees gave these individuals, through the Tech manager, greater credibility within Tech because they knew how the group worked and lived within its culture.

An Environmental Problem Emerges

At one fateful EnviroCouncil meeting, members were given some news that caused significant turmoil. James, an EnviroSystems engineer, explained that Tech had just selected a new process "tool"—a generic Chipco name for any piece of process equipment, even when this equipment is the size of a minivan—for its next manufacturing generation. Presenting the tool's environmental emissions data, he began with the good news: it emitted far lower quantities of PFCs than its predecessor did. The bad news, however, was that emissions of

associated HAPs exceeded Chipco's internal, company-wide goal by a factor of twenty.

Worse news followed. James added that only small reductions in HAP emissions were possible by working with the tool supplier to reduce gas flows. A separate abatement system would be needed to bring the emissions in line with the goal. But no existing systems had yet been identified that would do the job: remove the HAPs with greater than 95 per cent efficiency, yet handle a second highly flammable gas also present in the tool exhaust stream. And to make matters even more dismal, the process tool had to be fully ready for high-volume manufacturing operation within 10 months!

The conference room fell silent. For a few moments there were none of the usual remarks or questions. "People are picking themselves up off the floor right now," one member quipped. After their initial silence, the group was full of questions and suggestions. Why couldn't the supplier do more to optimize the tool design and further reduce gas flows? Why couldn't a new environmental treatment system that Chipco was developing for another purpose be used in this case? Why had the tool supplier switched the gas used in the process anyway? Members began to voice their assessments of the issue. "This is the biggest environmental problem we have ever faced," commented one. Another, with a flair for hyperbole, made a reference to a well-known environmental catastrophe. From the reactions of people at the meeting, all realized that a serious environmental problem was upon them.

An Environmental Problem Becomes an Operational Problem

What was the nature of this problem? As a threat to the natural environment, the magnitude of the projected emissions was far from catastrophic. They were well below any absolute regulatory limits on HAP emissions, with more than 100 other U.S. manufacturing facilities emitting at least Chipco's projected quantity of HAPs and several of them emitting more than ten times this amount.³⁸ The goal that had been exceeded was an internal one. Why not overrule the internal target? The answer came down to operations. Chipco needed the manufacturing flexibility afforded by the minor source classification. Ignoring the internal HAP limits simply did not serve environmental or operational goals.

Why not ask Tech to find another tool? Again the answer came down to operations. The new gases and process tool, it was explained, were essential to achieve the technical requirements of the next-generation manufacturing process. Furthermore,

this tool and its gases would be used more widely for subsequent manufacturing process generations. And as one senior manager explained, "We can't challenge the 'POR' [the plan of record, denoting any process tool or process step that has been defined by an appropriate decision-making body as the candidate for future use] on this selection; our job is to make it work." In Chipco's culture, challenging a POR is highly discouraged and sends the message that one might not be up to the challenge of "making it work." EnviroSystems had to find a solution. And to do this, they had to reframe the environmental problem as operational.

Toward that end, James presented a slide that had been created in consultation with the Tech manager who was heavily involved in environmental work. The slide explicitly linked the anticipated HAP emissions and Chipco's overall manufacturing goals, by showing the maximum chip production possible under various emissions scenarios. If an abatement system was not found, the slide made clear, the fab production would be limited to an embarrassingly low maximum output. The language of the problem had changed, shifting the performance metric from HAP emissions (tons per year) to chip production (wafer starts per week). This problem was standing in the way of bringing an entirely new manufacturing process on line. And this got the Envirocouncil's full attention. One manager observed that if the emissions were not brought under control, it "may be the first time that the environmental implications are the biggest technical hurdle to bringing [a tool] in."

The language of the problem had changed, shifting the performance metric from HAP emissions (tons per year) to chip production (wafer starts per week).

HAP emissions became the first item on the agenda of all subsequent Envirocouncil meetings, and James' slide was used extensively in other forums to impress upon Tech the operational nature of the problem. It worked. The Envirocouncil was able to assign a Tech engineer to lead a work group that would address the HAP emissions problem. Within only two months of the problem being announced, the HAP emissions from the new process tool had been brought under control, well below the internal goal, and they no longer threatened to limit eventual chip production. The work group had pushed hard for the supplier to optimize the tool's gas usage. At the same time, they

searched for and found a suitable small add-on pollution control device that could be attached to the exhaust system of each process tool.

The Envirocouncil was delighted with the solution. Only two months before, this problem had seemed "like the end of the world," one manager reminded the group. The most senior managers responsible for manufacturing process development also noticed the success of this project. They registered with the Envirocouncil their strong preference for more solutions like this one. The Envirocouncil and Tech had developed an integrated solution. Further, the new equipment could be tested and qualified for use in high-volume manufacturing in a matter of months, matching the pace of development in Tech. One engineer explained the success of the HAP emissions reduction project: "It was the first time we treated an environmental system like a process tool." It was aligned with the Chipco culture.

The Cultural Framing of an Environmental Issue

This story highlights the significance of framing the environmental problem at Chipco as an operational one. It also shows that bringing environmental issues closer to the organizational and technical core at Chipco is a long-term process. The complexity of the process cannot be captured by viewing only a point in time; nor can the actions taken by those involved be categorically called either proactive or reactive. In this case, an environmental goal had been established some years earlier, and it had always been strongly motivated by operational considerations. However, when it came to enforcing and implementing this goal, the Envirocouncil group was limited in its capacity. Only through making the goal directly relevant to members of Tech, by framing it in the language of an operational problem, did Envirocouncil gain the influence to motivate action. Table 2 summa-

Table 2
Cultural Framing of the Environmental Problem at Chipco

	Aspects of Culture Drawn On	Tactics Used
Framing the Problem:		
Type of Problem	Problems are defined as constraints on manufacturing growth. "Chipco tends to focus on things that limit performance; the whole corporate psyche is around problem-solving." (Envirocouncil manager) The most critical problems get the greatest attention and resources. "The critical players are the ones who take on the biggest challenges." (Tech manager)	Translated environmental emissions problem into an operational problem (possible constraint on manufacturing output). Engaged Tech interest in solving the problem by noting that the environmental implications would be "the biggest technical hurdle to bringing [the tool] in." (Envirocouncil manager) Issue became a legitimate Tech challenge. Secured funding to develop a solution from Tech, not Envirocouncil, budget.
Language	Decisions are always "data-driven." "We don't make decisions based on conjectures about the future." (Tech manager) Tech's concerns are with performance of the manufacturing process. "If there's no new process, there's no Chipco." (Tech engineer)	James presented detailed and accurate emissions data only a week after learning of the tool selection and compared that data to the numeric goal. Data presented more widely to Tech was in terms of impact on chip production, not environmental. Involved those with Tech experience to develop this slide so most meaningful metrics could be used.
Enacting the Solution:		
Approach	Single-minded focus on task at hand. Meeting attendance controlled so as not to detract from time spent obtaining results. Critical role of Tech engineer is to "make it work." "We're such good problem solvers that when a problem comes up, we'll figure out a way." (Tech engineer)	Created dedicated task force to find a solution. Task force led by Tech engineer. Chose lead engineer for his toughness, focus, and determination. "In all my years at Chipco, I have never seen someone be so firm with a supplier." (Envirocouncil manager)
Timing and Integration	Work timing defined by the "technology treadmill," a new manufacturing process every two years.	Chose modular solution which would change with process tool, not be permanent factory installation.

rizes the aspects of the Tech culture that were drawn on in this case and the specific tactics used that took advantage of each cultural element.

Framing the Problem

At Chipco, problems were defined as those things that limited the development or operation of the manufacturing process. When the Envirocouncil framed the HAP emissions problem as not only a barrier to bringing in the new process tool but as the key barrier, it took on a relevance within Tech that it otherwise would not have attained. Status in Tech is granted to those who take on the most insurmountable technical challenges, and solving the environmental problem came to be seen as an opportunity to overcome such a challenge and to gain the associated recognition.

The language and metrics used in Tech reflected this aggressive problem-solving orientation, and decisions and actions were never taken seriously without a basis of hard data. The Envirocouncil adopted a similarly rigorous stance toward data; only a week after the tool selection had been made, James presented detailed and accurate emissions data for the tool and was able to compare these data to a numeric goal. But rather than use emissions data (e.g. "xx tons per year of HAPs"), to communicate with Tech, the slide that had been prepared presented the problem in terms of maximum "wafer starts per week" (wspw), the Tech term for chip production volumes. This slide was developed jointly by an Envirocouncil manager, a Tech manager, and James, and represented the concerns of both audiences as a result.

Finally, through these steps of framing the problem as operational rather than environmental, Envirocouncil was able gain access to resources it otherwise would not have controlled. An Envirocouncil manager secured a \$2 million budget from Tech sources for each of the sites in need of an emissions solution, a significant commitment of resources in a period of corporate-wide cost controls.

Enacting the Solution

Framing the problem to align with the dominant culture provides only half an explanation for the resolution of the operational/environmental problem at Chipco. The other half of the explanation lies in understanding how the solution to the problem was pursued in a way that was culturally appropriate. In this case, tapping into cultural expectations about focus, determination, and timing

all contributed to the solution of the problem as it was framed.

The Tech culture celebrates an intense focus on the problem at hand. Interactions among engineers were organized to minimize distraction. Few meetings were held purely for informational purposes as informational meetings were seen to detract from time spent achieving results; knowledge was shared on a need-to-know basis, and opportunities for serendipitous discovery were few. The Envirocouncil mimicked this format for their meetings. By pulling together a work group to focus solely and completely on reducing the air emissions for the incoming process tool, the Envirocouncil adopted this mode of work.

Further, determination to "make it work" was perhaps one of the most highly regarded traits of a Tech engineer. Brute engineering force was often applied to overcome seemingly insurmountable challenges. Urgent problem solving was preferred over preemptive or anticipatory problem solving, both of which were seen as impractical or even unnecessary in an environment of relentless technical change. One manager explained: "Problem avoidance is counter-cultural." Brian, the Tech lead engineer for the emissions work group, was chosen because he exemplified the cultural values of toughness, focus, and determination.

One manager explained: "Problem avoidance is counter-cultural."

The solution to the HAP emissions problem was also consistent with the timing and pacing of work in Tech. With new processes developed roughly every two years, and new, faster, higher-performance products introduced on much the same time scale, there was a clear focus on the future, and the near future in particular. This relentless, but closely scheduled, pursuit of improved manufacturing processes (and hence products) was described by one manager as the "technology treadmill."

Envirocouncil members were painfully aware of how past environmental projects had violated this cultural rule, taking so much time to develop that they missed the window for integration with the manufacturing process generation that they were designed to serve. But the HAP emissions solution took advantage of equipment that would be ready to integrate in a matter of months and would keep pace with the technology treadmill. The integration of the solution was made even easier because it was a modular, scalable technology, just like the

equipment used for the manufacturing process. The equipment used to treat the HAP emissions was installed as a stand-alone modular unit attached to each process tool. It was designed, installed, and operated just like any other tool on the manufacturing floor.

Opportunities and Pitfalls of Cultural Framing

The Chipco case offers implications at three levels. First, for proponents of social issues in organizations, it points to tactics and methods for implementing such initiatives. Second, for organizations it sheds light on the opportunities and constraints associated with change around social issues. And finally, for the broader debate on the value of organizations adopting social initiatives, it suggests new nuances to the questions being asked.

Implications for the Manager: Tactics for the Cultural Change Agent

Cultures define both what is attended to and what is systematically ignored within organizations. Given this situation, individual managers must ask how they can bring something new to the organization's agenda without having it morph into another form of "business as usual." How do managers operate effectively in a culture yet reveal its blind spots? Particularly in today's business environment where greater attention is being paid to the ethics of corporate actions, proponents of social initiatives must make sure they are acting appropriately within a broader social context, not just aligning opportunistically with a cultural frame without questioning the underlying beliefs that it advances. Tactics for individuals in these settings involve acting in ways that are organizationally savvy, while also remaining entrepreneurial in trying to drive change, becoming what Meyerson calls "tempered radicals."³⁹ They use the existing cultural frames to their advantage, while at the same time "stretching" these frames to accommodate new issues and possibly new approaches.

For example, in the Chipco case, the frame of operational efficiency was used to act on the air emissions problem, but the environmental specialists still intended to subsequently pursue a longer-term, environmentally optimal solution. A piecewise approach—pursuing the most culturally palatable aspect of a social initiative first and then moving on to aspects that fit less closely with existing organizational frames—may be one way to gradually build support and acceptance for social initiatives.

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The specific mechanics of this task are multiple. Proponents at Chipco "packaged" an environmental issue by framing it in the terms, performance metrics, and accepted logics of the dominant Tech culture which were aimed at long-term organizational performance.⁴⁰ They spoke their language, in effect becoming multi-lingual and appealing to the interests of those who had the resources and power to effect a solution.⁴¹ The EnviroSystems group, working through the Envirocouncil, established ties to the Tech group through both public and private channels, and interacted both formally and informally with members of Tech.⁴²

Because organizational cultures are neither identical nor monolithic, a composite of tactics for framing is important for triggering appropriate organizational responses. Within a company, different departments regard different frames as important, because the meaning and categories they assign may reflect a departmental or occupational subculture in addition to a broader organizational culture.⁴³ The successful tactics used in the Chipco case included shifting responsibility for the problem to a specific group and catching the attention of members who saw the problem as personally significant. Information meaningful to that group was presented, and their specific routines for enacting a solution were triggered.⁴⁴

What are the limitations associated with these tactics? In the Chipco case, the issue was determined and expressed entirely within the organization, so the problem could be framed by insiders to capture the attention of other insiders. In other more visible situations, such as when an organization is under intense pressure and scrutiny from the media, advocacy groups, or the government, the situation may become more complicated. The organization loses some control over the framing process and becomes subject to the influence of outsiders. An organization under attack may invoke frames that are not consistent with its "settled" culture, making it more difficult for proponents of the issue to see how to enact certain cultural routines.⁴⁵ As a result, the organization's response may become less focused and efficient as various functional groups seek to interpret the

composite framing processes developed by many internal and external constituents.⁴⁶

Implications for the Organization: A Solution to a Problem As It Is Framed

Did the HAPs solution at Chipco further the social goals of environmental protection? That question is not a metric for determining success in the eyes of the Tech group. While framing an environmental problem in terms of the dominant cultural categories is important for motivating action, it does not necessarily yield the optimal solution for the environment. Several months after the HAP emissions problem had been "solved," one member of the Envirocouncil reflected that the chosen treatment method was far from environmentally optimal as it transformed the gaseous emissions into a liquid form that was then transformed again, relatively inefficiently, into a solid waste that was shipped to landfill.

A fundamental redesign of the liquid waste treatment system would ultimately be required, and an optimal solution would recycle the waste PFC gas back into useable gas. However, the manager added that extensive research and development would be necessary to build a recycling system, and he estimated that it would be a five-year effort. But work on such a recycling system does not fit with the predominant modes and forms of manufacturing process-development work utilized by Tech. It stands outside the time cycle on which this work turns, and it consists of problem-avoiding, pre-emptive work as opposed to urgent problem solving. Where the work on air emissions reduction had been enabled by its fit with the culture of Tech, work on a recycling system is more likely to be constrained, or at least not aided, by its lack of alignment with this culture.

The Chipco case study shows that successful implementation of social initiatives yields a solution to the problem as it is framed. It is ironic that the effective cultural framing of a social initiative may be so successful that the original social goal itself remains peripheral. However, one need not evaluate the organizational outcome in such pessimistic terms. While the optimal solution may not be initially attained, a solution can be obtained, and the individuals involved can gain the ability to put items on the agenda. In the future, such experiences may inform how proponents of social initiatives interact with others and may bolster the credibility of their cause through the ability to point to past successes and alliances.⁴⁷ While social issues may still remain peripheral after their frame alignment and successful implementation,

their success will bring social concerns closer to the core decision-making processes.

It is ironic that the effective cultural framing of a social initiative may be so successful that the original social goal itself remains peripheral.

Implications for the Broader Debate: Do Social Initiatives "Pay"?

Finally, the concept of cultural framing has implications for an ongoing debate about the financial merits of social initiatives in business. In the area of environmental management, researchers, practitioners, and policymakers have long considered whether it "pays" to be green—in other words, do financial benefits accrue simultaneously with environmental benefits when companies undertake projects to improve environmental performance.⁴⁸ This article demonstrates that the answer to this question is not categorical. The context—the organization's core culture, the frame alignment of the problem, and that of the solution—all contribute to whether a project will be successful or not. When we take the idea of cultural framing seriously and recognize that many possible frames exist that are used to motivate or justify action on particular social issues, we realize that the question of whether it pays to undertake these initiatives is misplaced.⁴⁹ Rather, we should be concerned with examining the cultural and contextual factors involved in specific initiatives to understand how they can be made to "pay" for particular organizations and their members. This new question gives both practitioners and researchers a new baseline with which to understand the successful implementation of social initiatives in business, and managers a new baseline from which to launch and evaluate their tactics for change.

Appendix A

Research Methodology

The data we used was derived from a nine-month participant observation study of Chipco by one of the authors. As a participant, and not merely an observer, the author gained unique insight into Chipco's culture by experiencing first-hand the tacit and explicit rules and norms that reflected the meaning of work at Chipco. The author participated in the Envirocouncil group and was physically located at the Tech site, allowing insight into Tech's core culture. The intent of the study was to

understand how the culture at Chipco influenced the work of EnviroSystems and the success of its projects. The ethnographic method was chosen because particular hypotheses were not developed for testing prior to the observation period but were expected to be generated during observation through a grounded-theory approach.⁵⁰

The author's role as a participant was not to facilitate organizational change but to collect information (through case studies of past and ongoing projects) and identify common features of successful and unsuccessful projects. In this role, she was an active listener and gatherer of information but did not intervene in decision-making or attempt to direct outcomes as an action researcher might. This kind of role was valuable in that it allowed the author to observe and participate in the culture as an insider and understand the barriers and opportunities experienced by members of the EnviroSystems group. As she developed preliminary hypotheses about these barriers and opportunities early in the fieldwork, the author was able to look for confirming and disconfirming evidence over the course of the remaining fieldwork period.

The bulk of the data was collected in the form of daily field notes. In addition, semi-structured interviews were conducted with approximately 40 people throughout Chipco in the course of gathering information on the case studies. These case studies included examples of both successfully and unsuccessfully integrated environmental projects and, while circumstances surrounding each varied, allowed for comparison. Interviews were also conducted with members of ten other semiconductor manufacturers facing similar challenges of incorporating environmental issues into the design of new manufacturing processes, and these interviews contributed to developing a broader understanding of the industry's approaches and challenges.

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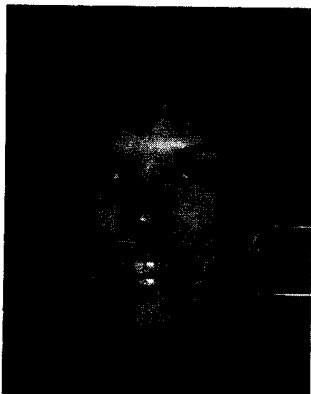
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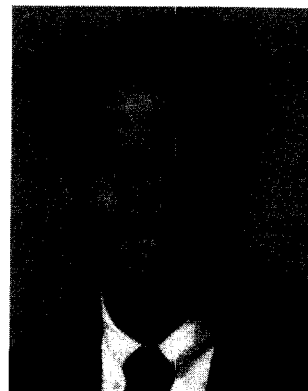
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