



**WORLD RESOURCES INSTITUTE**

*Management Institute for Environment and Business*

A program of the World Resources Institute



## **The Monsanto Company: Quest for Sustainability**

### *Teaching Note*

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#### **Overview**

Upon his promotion to CEO of the \$9 billion chemical giant The Monsanto Company in 1995, Robert Shapiro became a vocal champion of sustainable development and sought to redefine the firm's business strategy along principles of sustainability. By linking the previously disparate sectors of pharmaceuticals, nutrition, and agriculture around a common platform of biotechnology, Monsanto would generate huge profits while restoring the natural environment and providing for the food, nutrition and fiber needs of the world's poor and dispossessed. *Food \* Health \* Hope* became the firm's motto.

Three short years, one spin-off, and some \$8 billion in acquisitions later, The Monsanto Company was a mere shell of its former self. Its fine and bulk chemicals businesses, the heart of the original company, were spun off in 1996, and the proceeds helped finance some \$8 billion worth of seed and biotechnology acquisitions. By June 1998, Monsanto had emerged as a pure life sciences company. Instead of pesticides, Monsanto now sold seeds genetically engineered to produce a naturally occurring insect toxin. Shapiro's gamble on life sciences appeared to have paid off. Global acreage of all genetically engineered crops soared to some 70 million in 1998, and

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Monsanto's varieties accounted for over 70 percent of the total. Total return to shareholders had increased 285 percent since 1993 when adjusted for life sciences only, and market capitalization hovered around \$38 billion, up from some \$15 billion in 1995.

Yet during this period of transformation, questions emerged in Europe about the potential human health effects and environmental consequences of genetically engineered crops, spurring anti-biotech protests by a wide range of stakeholders. Could protests by European consumer and environmental groups derail Shapiro's sustainability-driven strategy? Or did Monsanto make fundamental strategic miscalculations and tactical errors that jeopardized this new business paradigm?

The Monsanto Company: Quest for Sustainability cases explore Monsanto's sustainability-based strategy and subsequent transition from a chemical to a life sciences entity. Case A, focusing on the period from 1995 to June 1998, consists of five sections: 1) a survey of the sustainability challenges confronting the agricultural sector, 2) an overview of the agbiotech industry, 3) a historical sketch of Monsanto, 4) a summary of Monsanto's sustainability initiatives and a detailed record of the firm's transition to life sciences, and 5) an overview of stakeholders' responses to the launch of genetically modified crops. Case B summarizes the events of summer 1998 that initiated Monsanto's downward spiral and its ultimate retreat from life sciences. The case chronicles the escalating backlash by consumers, food processors, environmentalists, and governments and concludes with Monsanto's merger announcement with Pharmacia & Upjohn in December 1999.

The material may be covered in either one or two class sessions, depending on the desired depth of analysis. In a one-class session, two formats are suggested: 1) the students prepare Case A, and Case B is handed out and summarized during the session and 2) the students prepare both cases, and student teams present strategy alternatives in class. In a two-class sequence, the Case A discussion is extended, with Case B distributed at the end of the session to set up the next class.

## Use

Both cases may be employed in either a core strategy course or in a specialized elective on sustainable enterprise or strategic environmental management. The case is ideally suited for the MBA and executive levels and requires a grasp of fundamental strategic principles. However, advanced BBA students with solid fundamentals in strategic analysis would also benefit.

The case objectives are primarily 4-fold: 1) to explore the concept of sustainability and the specific challenges confronting the agricultural sector, 2) to identify the strengths and weaknesses of Monsanto's sustainability-driven corporate strategy, in terms of both developing and industrialized economies, 3) to demonstrate the escalating importance of broad-based stakeholder engagement and the growing power of civil society, and 4) to discuss the process by which a strategic vision is conceived, communicated, and institutionalized. To cover this range of content, we recommend the following discussion format:

<b>Teaching Plan: One Session (i)</b>	<b>Total Time: 80 minutes</b>
1. Distribution of Case A and discussion questions.	2-5 days before class
2. Would you buy Monsanto stock?	20 minutes
3. Summarizing Case B.	10 minutes
4. What could Monsanto have done differently?	20 minutes
5. Who are Monsanto's customers and stakeholders?	15 minutes
6. What are the implications for strategy?	15 minutes

## Teaching Plan: One Session, Alternative Format

As suggested earlier, an alternative teaching strategy for a one-session format is to divide the students into teams and distribute both cases several days ahead of class. The teams would be asked to prepare a 5-minute presentation in response to the following questions:

- Having the benefit of hindsight, what should Monsanto's sustainability strategy have been back in 1995?
- What should Monsanto have done to implement this strategy during the first 5 years?

Presentations should be limited to 5 minutes, with an additional 5-10 minutes for discussion following each presentation. The last 15 minutes of class should be used to offer reflections on the lessons learned and to discuss the strategic process and Monsanto's deficiencies in this regard (see sections 4-6, below).

### Teaching Plan: One Session (ii)

1. Distribution of both cases.
2. Student team presentations and discussion.
3. What are the implications for strategy?

### Total Time: 80 minutes

- 2-5 days before class  
65 minutes  
15 minutes

## 1. Distribution of Case and Discussion Questions

Case A should be distributed a few days before class to allow ample time for reading and processing its contents. The following discussion questions are recommended to aid the students in preparation:

- What do you think of Monsanto's life science strategy of food, health, and hope?
- Why the European backlash? How does European resistance differ from concerns of the developing world?
- As a fund manager, would you have added Monsanto stock to your portfolio in June 1998? Why or why not?

The instructor may choose to organize students into small groups to meet before class to consider these questions. Meeting in small groups has been an effective way to ensure that students are adequately primed before class because then they all share a baseline understanding of the case.

## 2. Introduction: Would You Buy Monsanto Stock?

### Learning Objective

The discussion should explore the basic reasons both for and against Monsanto's continued success, underscoring the breadth and diversity of stakeholder groups (e.g., industrial farmers, industry competitors, European consumers, environmentalists, developing country farmers, and consumers) and the conflicts arising between their perspectives and Monsanto's stated vision.

### Teaching Strategy

It is useful to begin the class by showing or Attachment 1 (Exhibit 12 in Case A) and then asking, "If you were a fund manager, would you have added Monsanto stock to your portfolio in June 1998? Why or why not?" The discussion should bring to light several factors, both positive and negative, that could affect Monsanto's future earnings. They may be listed either on a blackboard or overhead.

## Analysis

On the positive side, it appears that Monsanto was poised to capture a significant piece of the expanding agbiotech market. The product was unquestionably a winner in the eyes of industrial farmers; U.S. farmers adopted the input-trait GM crops at breakneck pace to capture the cost savings achieved through fewer herbicide/pesticide applications. The apparent first-mover advantages afforded Monsanto a 70 percent share of the global GM crop acreage. The environmental argument in favor of agbiotechnology was also compelling. The genetically engineered crops substituted “knowledge” (genetic engineering) for “stuff” (herbicides, pesticides, and fertilizers), thereby decreasing the use of toxics. Equally important, crops engineered to grow in marginal climates would protect forests and other sensitive areas from conversion to agriculture. Monsanto’s *Roundup Ready* crops also facilitated the practice of conservation tillage, a management technique that reduces soil erosion. From a social perspective, the potential nutritional improvements in crops help decrease hunger and nutrient deficiencies throughout developing countries. These unique advantages explained analysts’ optimistic forecasts for explosive growth: from \$1.2 billion in 1998 to \$20 billion by 2010. Thus Monsanto’s preemptive, first-mover strategy had placed it in the leadership position of a high-tech industry just beginning to ascend the growth curve. A pipeline of new products and a transition to output-trait crops reinforced the company’s position.

Yet several factors would lead one to believe that Monsanto’s leadership position in the agbiotech race was set to collapse along with the public’s general support for genetically modified organisms (GMOs). Financially, Monsanto had exhausted considerable resources during its acquisition phase and had accumulated significant debt. Its designation as a high-growth life sciences firm and its increased dependency on *Roundup* (a mature chemical product whose U.S. patent would expire in 2000 and whose continued earnings growth rested on overseas market expansion) necessitated a rapid sales growth of its biotech products, perhaps *too* rapid for the public’s comfort. The growing European backlash, precipitated in part by the mad cow disease scare and the subsequent mistrust of regulatory bodies, raised doubt about the likelihood of continued consumer acceptance. By electing to pursue input-trait biotech products first, Monsanto also contributed little to consumer acceptance of the GMOs; there was no discernible benefit for the end consumer. And its marketing tactics appeared at best, to be tolerated by the farmers. In addition, the environmental and human health concerns seemed valid, and Monsanto had not demonstrated a willingness to *listen* to these concerns: it remained opposed to labeling and did not allay developing country concerns about the Terminator technology. From a sustainability perspective, its biotech-based strategy did not address poverty and food access issues and failed to differentiate between the developed and developing worlds, thus calling into question the sincerity of its “feed the world” mission. Genetically engineered western commodity crops were Monsanto’s first products, crops wholly inappropriate for developing countries.

### 3. Summarizing Case B

In a one-class format, the instructor may close the beginning discussion with a summary of Case B (see Attachments 2-4 for slides that may be used here). In a two-class format, we recommend extending the opening discussion on the pros and cons of Monsanto’s strategy to a discussion of sustainable agriculture, as described below.

#### Learning Objective

The discussion should reveal the failures of our current model for agriculture and introduce the complexities of sustainable agriculture. The necessity of a systems perspective that integrates ecological, social, economic, and cultural elements should be emphasized.

#### Teaching Strategy

The following questions may be useful in advancing the discussion:

- What characterizes a sustainable agricultural system?
- Is the power of biotechnology sufficient for establishing a sustainable model of agriculture? Why or why not?

## **Analysis**

The industrial agricultural technologies that delivered soaring crop yields during the Green Revolution have compromised our ability to meet the demands of future generations. As stated by the World Resources Institute, “without a transition to more resource-efficient and less toxic farming methods, it will be difficult to meet world food needs in the future without increasing agriculture’s environmental burden.”<sup>1</sup> Yet any attempt to address global hunger and malnutrition must also address the problems of poverty and food access. Simply growing more food is not a viable solution, as demonstrated by the minimal gains in human health among the world’s poor during the Green Revolution.

To move toward agricultural sustainability requires, above all, a systems perspective. Consider the definition of sustainable agriculture as drafted by NGOs at the 1992 United Nations Rio Conference:

Sustainable agriculture is a model of social and economic organization based on an equitable and participatory vision of development which recognizes the environment and natural resources as the foundation of economic activity. Agriculture is sustainable when it is ecologically sound, economically viable, socially just, culturally appropriate and based on a holistic scientific approach.<sup>2</sup>

It becomes apparent that agricultural sustainability is contextual, dependent upon complex cultural, social and environmental factors. Shapiro’s biotechnology-based vision of agricultural sustainability lacked broad-based support, particularly among the NGO community, because it failed to provide an integrated solution. Without explicitly recognizing the place of small-holder farming as well as large-scale (industrial) agriculture and the role of polyculture (organic) methods as well as monoculture (row crop) approaches, any vision of sustainable agriculture is necessarily incomplete.

Biotechnology does appear to offer a means to mitigate the environmental pressure of industrial agriculture. The use of herbicides, pesticides, and other agricultural inputs can be significantly decreased, and the ability to grow crops in salinized, poor-quality soils and drought-stricken areas could prevent forest clearing and the conversion of sensitive lands to agriculture. In the language of sustainability, biotechnology offers a way to improve the eco-efficiency of agriculture by reducing inputs and increasing resource efficiency. Yet, as stated above, the environment is but one consideration in the transition to sustainable agriculture. And although biotechnology may indeed prove to be a necessary tool for achieving agricultural sustainability, by no means is it sufficient.

## **4. What Could Monsanto Have Done Differently?**

### **Learning Objective**

After hearing (one-class session) or reading (two-class session) the update contained in Case B, students should be prepared to engage in a spirited analysis (post-mortem) of Monsanto’s strategy. The analysis should explore the rationale behind CEO Shapiro’s “feed the world” strategy for moving Monsanto from chemicals into the life sciences and the strengths and weaknesses of its implementation. Students should develop an understanding of how sustainability issues factored into Shapiro’s global vision, the fundamental inconsistencies between Monsanto’s rhetoric and actions, the drivers of these inconsistencies, and the manner in which Monsanto’s one-size-fits-all strategy was incompatible with the needs and traditions of developing countries.

## Teaching Strategy

The following questions may be used to prompt class discussion:

- What was Monsanto's strategy? Were Monsanto's tactics and actions aligned with this strategy? If not, why not?
- Did Monsanto's life sciences strategy successfully address the issues of *global* agricultural sustainability? Was it compatible with developing country needs?
- What could Monsanto have done differently?

## Analysis

Shapiro's strategy was premised on the belief that biotechnology and the life sciences were *the* solution to resolving the world's food and fiber needs in an environmentally and socially sustainable manner. Financially, the rapid transition to life sciences would ostensibly propel Monsanto into the leadership position of a knowledge-based high-growth industry and out of the low-margin cyclical chemical sector.

Yet a number of fundamental inconsistencies emerged between Shapiro's, at times messianic, rhetoric and Monsanto's actions. These inconsistencies included: 1) a marketing strategy that tied *Roundup* to Monsanto's genetically engineered products, 2) an opposition to seed saving by farmers and a subsequent heavy-handed enforcement of intellectual property rights, 3) an opposition to the labeling of genetically engineered crops and a country's right to exclude GMO's on the basis of a precautionary principle, 4) a focus on input-trait farmer beneficial crops, and 5) a focus on western commodity crops such as soybean, corn, and cotton. In society's eyes, these incongruities undermined Monsanto's claims of sustainability and provided fodder for NGO attacks.

The divergence of vision and action may be explained, in part, by a combination of factors that placed a premium on rapid growth and market penetration. These factors included: 1) market pressure to demonstrate higher growth and profitability commensurate with the biotech/life sciences sector, 2) financial pressure from the heavy debt load associated with Monsanto's high-premium acquisition spree, and 3) increased dependency on *Roundup*. The spin-off of Monsanto's bulk and fine chemical operations placed Monsanto in the high-growth category of "pure play" life sciences firms. Monsanto's P/E ratio rose to reflect the market's higher expectations for growth: At the beginning of 1997, Monsanto stock sold at 23 times earnings while Dow Chemical (which followed a mixed strategy, maintaining chemicals along with its life science operations), at just 10.5 times earnings. Yet with this distinction came the pressure to demonstrate commensurate growth and profitability. Shapiro's \$8 billion worth of acquisitions, often at staggering premiums (Holden's Foundation Seeds, with annual revenues of \$45 million, was purchased for \$1.02 billion), diluted near-term earnings and intensified the financial pressure. Further, following the spin-off of Solutia, *Roundup* was to account for 40-50 percent of Monsanto's operating profit in 1996. Although *Roundup* had a 20 percent growth over the past 20 years, primarily through international sales, loss of patent protection in the United States in 2000 would intensify margin and revenue pressures.

Thus Monsanto's marketing strategy placed a premium on short-term value capture. To use a software analogy, one could argue that Monsanto pursued a Microsoft closed-source model as opposed to a "Redhat" open-source strategy (see Attachment 5). Contractually tying *Roundup* to its *Roundup Ready* line of GM crops and aggressively enforcing intellectual property rights positions with U.S. farmers by instituting field inspections and other intrusive requirements demonstrated this concept. From the public's perspective, Monsanto's financial success remained linked to the sale of traditional agricultural chemicals, products that it claimed would be made obsolete by biotechnology. The fact that *Roundup Ready* and *Bt* crops resulted in a net decrease of total herbicide/pesticide use was lost in the din of public outrage. Further, Monsanto's aggressive patent enforcement, coupled with its tacit endorsement of Terminator technology, had the added disadvantage of projecting an image of corporate dominance and monopolization of the ag sector.

The all-or-nothing pure-play life sciences strategy essentially forced Monsanto to plow ahead with

commercialization of its GM technologies, leaving little opportunity for public debate on the merits and dangers of GMOs.<sup>3</sup> Monsanto's opposition to GMO labeling, a position for which it suffered a significant loss of legitimacy, was a case in point. Monsanto feared that GMO labeling would stigmatize the product and possibly raise additional consumer concerns, thus hindering or slowing adoption of GM technologies. Yet Monsanto's objection to labeling was in conflict with the very notion that GMOs would eventually be *more* desirable than traditional crops. Once output-trait products entered the market, farmers would capture additional value only if an infrastructure existed for segregating GM crops and preserving their identity throughout the supply chain. From a midterm perspective (3-5 years), it would have been advantageous for Monsanto to *support* labeling requirements and to facilitate creation of an identity-preserving infrastructure. Thus, not only did Monsanto's actions hinder its growth potential, they also eroded present-day markets by ultimately undermining public confidence.<sup>4</sup> Other companies have adopted different strategies, including Dow's focus on "plants as biofactories" and DuPont's focus on output traits (see Attachment 6). Monsanto's assumption that the market would necessarily develop in three sequential waves (input, output, and biofactories) turned out to be seriously flawed and may have contributed to the company's ultimate downfall.

Aside from short-term financial pressures, inconsistencies in Monsanto's planning also stemmed from a one-size-fits-all strategy with respect to developed and developing countries. Although Monsanto proclaimed an intention to meet the world's food and fiber needs, its initial GM technologies were directed to western markets and commodity crops. Rice, sweet potatoes, cassava, and yams were the principal crops of developing countries, not corn, cotton, and soybeans.<sup>5</sup> In addition, Monsanto's patenting of life forms and intellectual property right protection tactics were seen by some as an affront to the thousand-year-old cultural and seed saving traditions of India and many other developing countries. Developing countries, a majority of whose populations participated in the agricultural sector, often at a subsistence level, increasingly looked upon Monsanto and other multinational agricultural firms as extractive, profit-motivated corporate entities whose products would displace the small-holder farmer. The rapid consolidation of the seed sector, the vertical integration of the agricultural supply chain, and the patenting of genetic "inventions" by these firms reinforced the notion of corporate hegemony and "bioserfdom." Thus, by failing to differentiate between the needs and drivers of the survival and mature economies, Monsanto undermined its global sustainability campaign and alienated many in the developing countries, potentially powerful allies.<sup>6</sup>

In the end, Monsanto overpromised and underdelivered on its global sustainability vision, a fact that did not go unnoticed by NGOs and consumers worldwide. As we will see below, these stakeholders were increasingly connected via the internet. The result was a global backlash unlike any that had come before.

## 5. Who Are Monsanto's Customers and Stakeholders?

### Learning Objective

Students should understand how Monsanto's failure to extend its definition of customer beyond the level of farmer and to integrate a broad array of stakeholders led to its ultimate demise. The discussion should analyze the global rise of NGOs within the last decade and civil society's collective power to influence corporate behavior and strategy materially. Students should explore the players and organizations that compose 21<sup>st</sup> Century stakeholder networks, the methodologies for identifying and prioritizing partners, and the importance of co-formulating corporate strategy through stakeholder dialogues.

### Teaching Strategy

The following questions may be used to facilitate the discussion:

- Whom did Monsanto view as its customer? As its stakeholders?
- Which stakeholders did Monsanto fail to integrate into its network? Why?
- Why the European backlash?

## Analysis

One could argue that its 100-year chemical industry past shaped and dominated Monsanto's customer focus. Because the chemical sector traditionally dealt with government regulatory officials and scientists and with clients' chemical engineers, there existed little precedent or need for factoring end-consumers into a firm's strategy and product formulation. A similar mentality appeared to persist as Monsanto moved into the life sciences. Now, instead of providing technical chemistry-based solutions to an intermediate manufacturer, Monsanto perceived itself as a provider of biotech solutions to the industrial farmer. Monsanto's initial products — input-trait crop technologies — sought to meet only the needs of these stakeholders, a rational decision from a chemical company's perspective, yet a catastrophic miscalculation in the increasingly consumer-oriented world of life sciences: Unlike traditional agchem products, the products of biotechnology were *directly* reaching the end consumer (see Attachment 7). Success in this market required a strategy encompassing a more systemic view of the entire food system.

Monsanto's support for (or unwillingness to back away from) the Terminator also appeared related to its chemical industry instincts. Chemical firms have used patents to protect their intellectual property for quite some time, and the public has generally supported this practice. Monsanto incorrectly assumed that its patenting of living organisms and attempts to protect its genetically based intellectual property using Terminator-like technologies would be accepted in much the same manner.

A similar identity crisis is discernable in Monsanto's stakeholder management. The chemical sector was accustomed to intensive EPA scrutiny and government regulation. In character with its chemical industry background, Monsanto spent considerable resources in managing its government and political relationships, stakeholders now critical to the GMO regulatory process. Key Monsanto employees and board members with previous government affiliations included:

- 1) **Michael R. Taylor:** Monsanto's vice president for public policy (as of September 1998). Former executive assistant to the commissioner of the FDA, Taylor was also the agency's deputy commissioner for policy when the important 1992 policy on GM food safety was drafted.
- 2) **Mickey Cantor:** Member of Monsanto's board of directors since 1997. Personal attorney to President Clinton and former U.S. commerce secretary and U.S. trade representative.
- 3) **Marcia Hale:** Monsanto's director of U.K. government affairs. Former assistant to President Clinton for intergovernmental affairs.
- 4) **William D. Ruckelshaus:** Member of Monsanto's board of directors. Former EPA administrator in the Nixon and Reagan administrations.
- 5) **Jack Watson:** Chief legal strategist for Monsanto. Former White House chief of staff in the Carter administration.
- 6) **Linda J. Fisher:** Vice president of public affairs for Monsanto. Former assistant administrator of the EPA Office of Prevention, Pesticides and Toxic Substances.
- 7) **Michael A. Friedman, M.D.:** Senior vice president of clinical affairs for G.D. Searle (Monsanto's pharmaceutical division). Former acting FDA commissioner.
- 8) **Toby Moffett:** Vice president of public and government affairs for Monsanto. Former Democratic Congressman from Connecticut.<sup>7</sup>

Because Monsanto was fluent in the regulatory agency rhetoric of risk analysis and scientific reason, it managed these relationships effectively. In both the United States and the United Kingdom, government officials publicly supported GMOs (until public opposition forced governments to retreat from their position). The company was also adept at gaining access to highly visible sustainability gurus (e.g., Paul Hawken, Amory Lovins, Bill McDonough) at the corporate level. However, these relationships were largely restricted to the few dozen champions of sustainable development within the new sector and the corporate staff.

Absent from Monsanto's stakeholder networks, however, was a meaningful, *two-way* dialogue between its operating core and what can be broadly labeled as "civil society" (e.g., civic associations, environmental groups,

religious organizations, consumer lobbies). Instead, Monsanto offered a prescriptive solution to the highly complex issue of sustainable agriculture and then sought to explain, in the sterile language of risk and cost-benefit analysis, why the potential dangers of GMOs were a necessary risk. In a Monsanto publication, “Fields of Promise,” the author revealed the company’s preoccupation with science alone: Although public questions about biotechnology were yet to be fully addressed, Monsanto believed that “the primary challenge — developing the science and the technology that would make it all possible (genetic engineering) — had been met.”<sup>8</sup>

An interview with Tom McDermott, head of Monsanto’s European public relations in 1997, further demonstrated the firm’s chronic failure to understand the true cause of consumer backlash:

Nobody has ever tried to talk to the public about biotechnology before. It’s not like trying to sell a new washing powder. We don’t have the history. We don’t have the experience. It would have been a good thing to have done a couple of years ago. We should have been active much sooner.<sup>9</sup>

Talking to the public was not the problem; *listening to the public* was. Monsanto essentially viewed the European opposition as arising from consumer ignorance and, therefore, was surmountable with an effective advertising campaign, a belief that failed miserably. Monsanto did little to understand the concerns of European consumers shaken by the mad cow disease scare and distrustful of science-based declarations of safety. Nor did Monsanto address Europeans’ cultural sensitivities toward food and farmland.<sup>10</sup> In the end, Monsanto’s relentless insistence on scientific data and disregard for the “outrage factors”<sup>11</sup> that characterize public perceptions of risk provoked even further outrage:

When people are not treated with fairness and honesty and respect for their right to make their own decisions, there is little risk communication can do to keep them (the public) from raising hell - regardless of the extent of the hazard.<sup>12</sup>

To complicate Monsanto’s situation further, the firm’s checkered history as a chemical manufacturer offered the public little assurance about the accuracy and validity of company pronouncements. As one strident Monsanto critic pointed out,

The company manufactured virtually all the PCBs in the United States until they were finally banned in 1976, and taxpayers are still shelling out to clean up PCB-riddled waste sites. Monsanto also manufactured Agent Orange, which is linked to cancer and reproductive problems in Vietnam War vets. According to the Environmental Protection Agency, Monsanto is a “potentially responsible party” at 93 Superfund sites.<sup>13</sup>

Thus, the Monsanto debacle was a poignant indicator of the growing power and influence of NGOs and civic organizations. As Attachment 8 indicates, NGOs have proliferated exponentially within the last decade. Linked together via the internet, these organizations are increasingly acting as a networked (albeit somewhat chaotic) body — an NGO “swarm” if you will — capable of generating intense media coverage and driving public perception (Attachment 9). No longer is it possible to set strategy in the quiet confines of the corporate executive suite. Corporations are now finding themselves operating increasingly within a virtual global fishbowl. The implications for strategy-making are profound: In the new century, successful companies will engage stakeholders in the co-formation of strategy rather than seek to manage them or minimize risks or exposure to outside groups based on their potential to cooperate or threaten. Instead, companies will actively seek out stakeholders for collaboration. And in the internet age, engagement with stakeholders has more to do with their potential to contribute new information and influence others than it does their size, budget, or political clout. Replacing secrecy and protection of proprietary information, transparency and stakeholder engagement will likely hold the keys to success in the future.

## 6. What Are the Implications for Strategy?

### Learning Objective

Students should understand that forging successful strategies requires much more than bold vision and rational planning. The challenges of global sustainability and the emergence of the NGO swarm require employee involvement and diverse outside stakeholders in the strategy-making process. Through this discussion, the student should develop an understanding of Monsanto's deficiencies in this regard and an appreciation for what it takes to be successful.

### Teaching Strategy

The following questions may be used to facilitate the discussion:

- How did Monsanto arrive at its life sciences strategy of "Food, Health, and Hope?"
- Was Shapiro's bold vision for agbiotech enough to drive the company?
- What was missing at Monsanto?

### Analysis

Understanding the strategic process provides a useful explanation of how Monsanto went wrong.<sup>14</sup> An analysis of the literature on this topic suggests four basic strategic modes — symbolic, rational, transactive, and generative.<sup>15</sup> The symbolic mode involves management's creation of a compelling vision and clear corporate mission. The rational mode relies heavily on strategic planning and reporting systems: Responsibilities inside hierarchies and accountability based on performance, for example. The transactive mode is based on interaction and learning; its center is communication across organizational boundaries. And the generative mode depends on organizational members' entrepreneurial behavior (see Attachment 10).

Sustainable development became a core aspect of Shapiro's vision, and the strategy-making process came to be dominated by the symbolic mode. In 1997, Shapiro also launched a new Sustainable Development Sector, empowering dozens of internal champions to identify and nurture the new sustainable businesses of the future. In essence, Shapiro was attempting to re-ignite the generative mode of strategy making, which drove the development of biotechnology capability during the 1980s.

Yet as a result of these developments, Monsanto was thrust into the public eye in a way that few chemical companies had ever experienced (the issues were now much broader than toxic emissions or chemical spills). The highly visible and symbolic nature of Shapiro's portrayal of biotechnology's role in the future of agriculture generated unprecedented levels of public attention and scrutiny from groups and organizations that previously knew or cared little about Monsanto's activities. As a result, these groups cast bright lights on incidents in which company actions did not always match the articulation of Shapiro's vision. Unfortunately, the company's transactive capacity was virtually nonexistent, and ultimately its inability to listen to stakeholders became pathological.

Indeed, a former spokesperson for the company noted that although Shapiro was able to articulate a compelling vision of the future, he failed to win over many managers and employees who continued to act as they had for decades — rationally, yet arrogantly. Even more significant, there appeared to be little alignment between the rational processes (planning, reward, and incentive systems) and the symbolic process that Shapiro had put in place. The failure of employees beyond the top management team — and in some cases, members of the team itself — to adopt Shapiro's vision prevented fundamental company change from being realized. Instead of becoming a more open, innovative culture, the firm became more defensive and had to back away publicly from several of its biotechnology initiatives. In retrospect, Shapiro may have been too soft, too naïve. He seemed to believe that if you simply put out the vision, people would get behind it. That was not so, as things turned out.

At least some of the problems associated with Monsanto's sustainability strategy may be related to its inability to develop and deploy a balanced multimodal strategy-making process. Attachment 11 illustrates Monsanto's imbalance at the end of 1999. The symbolic mode dominates all others. A better balanced portfolio of strategic processes may have helped the company avoid the problems it encountered. Explicit connection between the rational mode (especially incentive and reward systems) and the symbolic vision of sustainability might have overcome some of Monsanto's problems of drift and inconsistency.

Yet the lack of the transactive mode may explain most of the problems encountered here. With the exception of Shapiro's outward-looking vision of sustainable development, there was little in the way of stakeholder dialogue or cross-boundary learning — processes that might have helped the company gain access to important outside views or win over constituencies that later became adversaries. Despite efforts by some organizational members to access the voices of stakeholders, only a select few individuals in the company (the hundred or so predisposed to sustainable development) were exposed to these views. For the vast majority of company employees, Monsanto's strategic process was largely internally focused. The pursuit of vision (the symbolic mode) was emphasized at the expense of activities that could have led to stakeholder engagement, stewardship, learning, and more comprehensive implementation within the organization.

This analysis leads to some interesting questions to close the class:

- Was the vision of “feeding the world” too grandiose? Where do you draw the line between strategic intent and overpromising when it comes to sustainability?
- Is it possible to create a life sciences company out of a chemical and pharmaceutical firm? Or does the “genetic code” of the latter preclude the former?
- Will the new Monsanto be sufficiently developed to stand alone as an agbiotech pure play? Or is it necessary to develop such a business as part of a larger portfolio?

We do not know the answers to these questions. But stay tuned for the next chapter of the story.

## Notes

<sup>1</sup>World Resources Institute. "Trends Point to Gains in Human Development While Many Negative Human Impacts on Vital Ecosystems Are Occurring." Online at: <http://www.wri.org>. Accessed: March 2000.

<sup>2</sup>NGO Sustainable Agriculture Treaty, global forum, (Rio de Janeiro, June 1-15, 1992).

<sup>3</sup>DuPont's "mixed strategy" entry into life sciences and its focus on output traits presents an interesting comparison. With only 15 percent of revenues derived from life sciences, DuPont was able to go slowly with its GM technologies. In an effort to increase the visibility of its life sciences revenues and earnings and boost its stock price, DuPont announced the creation of a tracking stock. See Patricia Van Arnum, "Are the Life Sciences the Way to Grow?" *Chemical Market Reporter* (May 10, 1999): FR3-FR4.

<sup>4</sup>Interestingly, Zeneca's introduction of a labeled genetically engineered tomato paste into the U.K. market several years earlier gained consumer approval and by 1998 was outselling costlier conventional brands. For more information, see Stephanie Bentley, "Monsanto Tackles a Skeptical Public," *Marketing Week* (September 4, 1997).

<sup>5</sup>The pressure of short-term value capture was also a likely contributor to crop selection because no easily accessible markets existed for many of the developing country food crops.

<sup>6</sup>For additional information on the survival economy, see Stuart Hart, "Beyond Greening: Strategies for a Sustainable World," *The Harvard Business Review* (January-February 1997).

<sup>7</sup>Information from John Luoma, "Pandora's Pantry," *Mother Jones* (February 2000): 58

<sup>8</sup>The Monsanto Company, "Fields of Promise," n.d. (company brochure), p. 11.

<sup>9</sup>Bentley, 1997, "Monsanto Tackles."

<sup>10</sup>For additional information on the European reaction to GM foods, see George Gaskell, Martin W. Bauer, John Durant, and Nicholas C. Allum, "Worlds Apart? The Reception of Genetically Modified Foods in Europe and the U.S.," *Science* (July 16, 1999): 384-387.

<sup>11</sup>For additional information on public perceptions of risk, see Peter M. Sandman, "Risk Communication: Facing Public Outrage," *The EPA Journal* (November 1987).

<sup>12</sup>Sandman, 1987, "Risk Communication: Facing Public Outrage."

<sup>13</sup>Molly Ivins. January 4, 1999. "Let's Go Back to Maroon Bluebonnets," *Star Telegram*. Online at: <http://www.corporatewatch.org>. Accessed February 2000.

<sup>14</sup>This section is excerpted from S.Hart and M.Milstein, "Strategic Process and Global Sustainability." working paper, 2000.

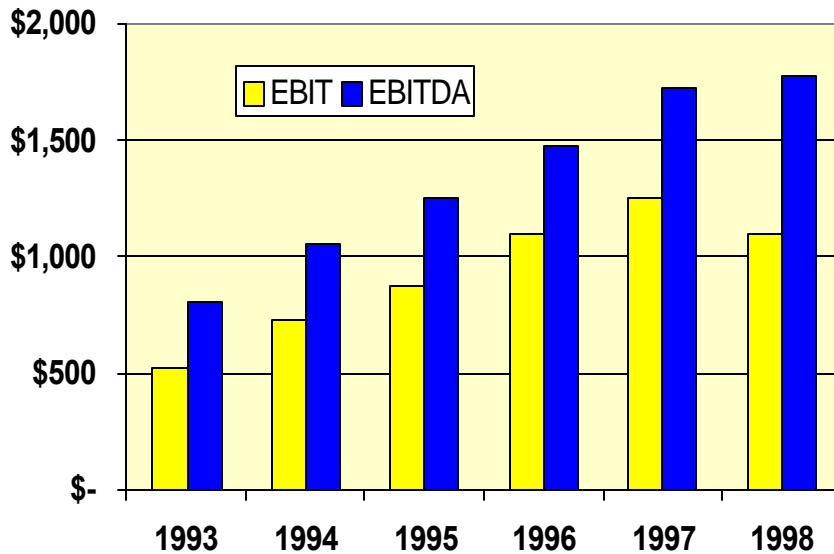
<sup>15</sup>See S. Hart, "An Integrative Framework for Strategy-Making Processes," *Academy of Management Review* 17 (1992): 327-51.

# **The Monsanto Company: Quest for Sustainability**

**Stuart Hart  
Erik Simanis**

### Attachment 1

**EBIT and EBITDA**  
(dollars in millions, except unusual items)

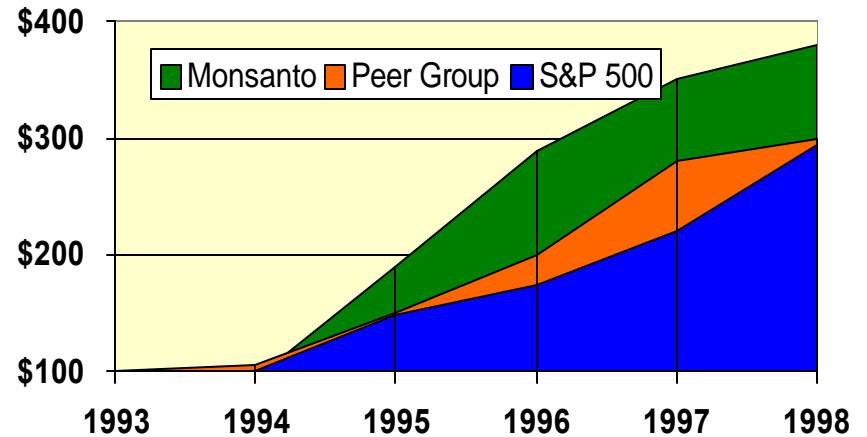


\* EBITDA has grown at a 15.5 percent annual rate since 1993.

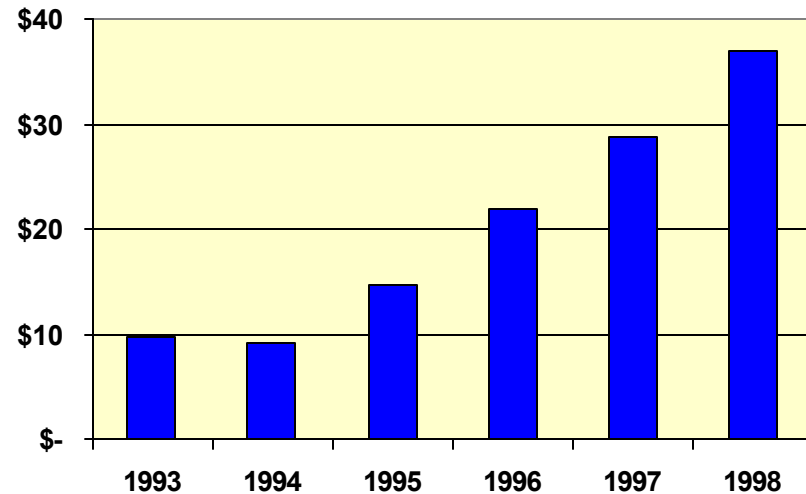
\* Monsanto's total return to shareowners has increased more than 285 percent since 1993, when adjusted for life sciences only.

Source: The Monsanto Company, 1998 Annual Report.

**Total Return to Shareholders vs. S&P 500 & Life Sciences Peer Index**



**Total Market Capitalization**  
(Dollars in Billions)



Stuart Hart and Erik Simanis

**Attachment 2**

# **What Happened**

- **“Let the Harvest Cease”**
  - **Unlikely coalition of NGOs, consumer groups, organic farmers, and celebrities crush ad campaign**
- **Goodbye Grameen**
  - **Hundreds of e-mails force Yunus to withdraw**
  - **“If you sneeze in Europe, it’s felt in India”**
- **Merger Falls Apart**
  - **AHP deal unravels in October 1998 (stock drops 32.4%)**
  - **Monsanto restructures to finance seed company acquisitions (\$4 billion through divestitures, cost reduction, equity, and debt)**
- **The Terminator Strikes**
  - **Seed sterilization technology becomes international fiasco**
  - **Operation “Cremation Monsanto” initiated in India**

Attachment 3

# Additional Bad News

- **August 1998**
  - **Scientist alleges that rats fed GMO potatoes suffered damage to their immune systems**
  - **Study later discredited**
- **May 1999**
  - **Article published in *Nature* provides evidence that pollen from Bt corn killed monarch butterfly caterpillars**
  - **“Nobody has considered this before. Should we be concerned? Yes” Dr. Fred Gould, Insect Ecologist**
- **European Governments React**
  - **Austria and Luxembourg ban sale of GM corn**
  - **U.K. announces 3-year moratorium on GMOs**
  - **France suspends authorization to grow GM corn**
  - **European Parliament calls for the labeling of GM foods**
- **Corporate Customers React**
  - **Safeway, Tesco, Sainsbury, and Asda ban GM food**
  - **Gerber, Unilever, and ADM announce moratorium on purchase of GM foods**

**Attachment 4**

# **Monsanto's Response**

- **In October 1999, Monsanto publicly announced that it would not commercialize Terminator seed technology**
- **Shapiro apologizes for Monsanto's behavior**
  - **“Our confidence in this technology and our enthusiasm for it has, I think, widely been seen as condescension or indeed arrogance”**
- **By December 1999, Monsanto's stock price has plummeted**
  - **“the market seems to give no value to Monsanto's agbiotech business”**
- **On December 20, 1999, Pharmacia & Upjohn and Monsanto approved a \$27 billion merger**
  - **Monsanto's agbiotech business would become a separate business headed by its own board**

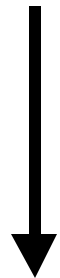
# **Open Source Thinking**

## **Microsoft Model → Redhat Model**

- **IP Control**
  - **No saving seed**
  - **Field inspections**
  - **Pinkerton's**
  - **Terminator**
  - **Roundup required**
  - **“Value capture”**
- **Technology fee**
  - **Save seed**
  - **Encourage spread**
  - **No legal restrictions**
  - **No Terminator**
  - **Roundup ready**
  - **“Continuous innovation”**

# Beyond “Three Waves” Theory

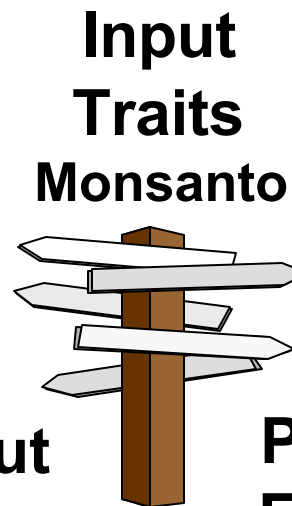
**Monsanto**



**Input Traits  
Output Traits  
Plants as Factories**



**Reality**

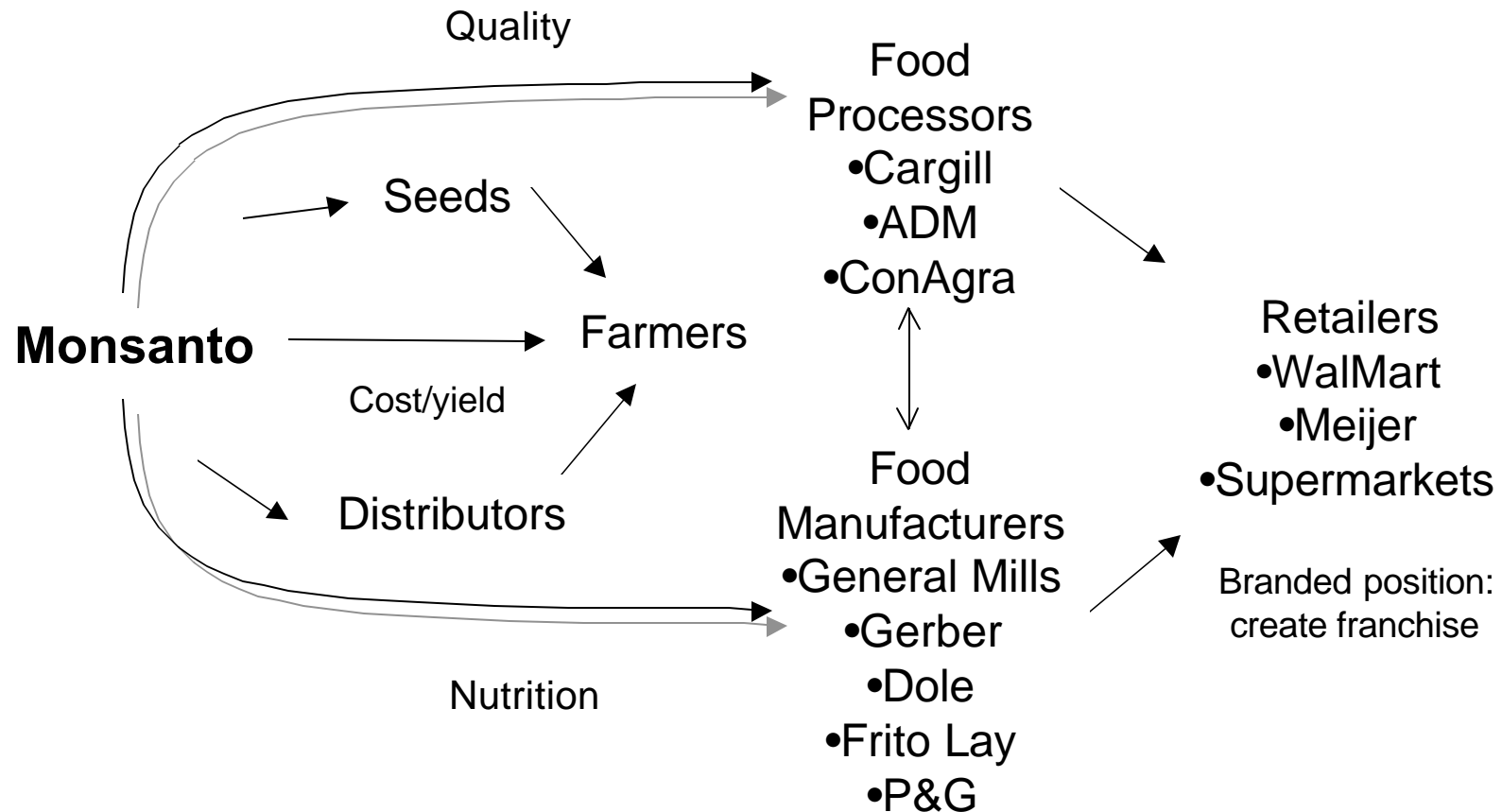


**Output  
Traits  
DuPont**

**Plants as  
Factories  
Dow**

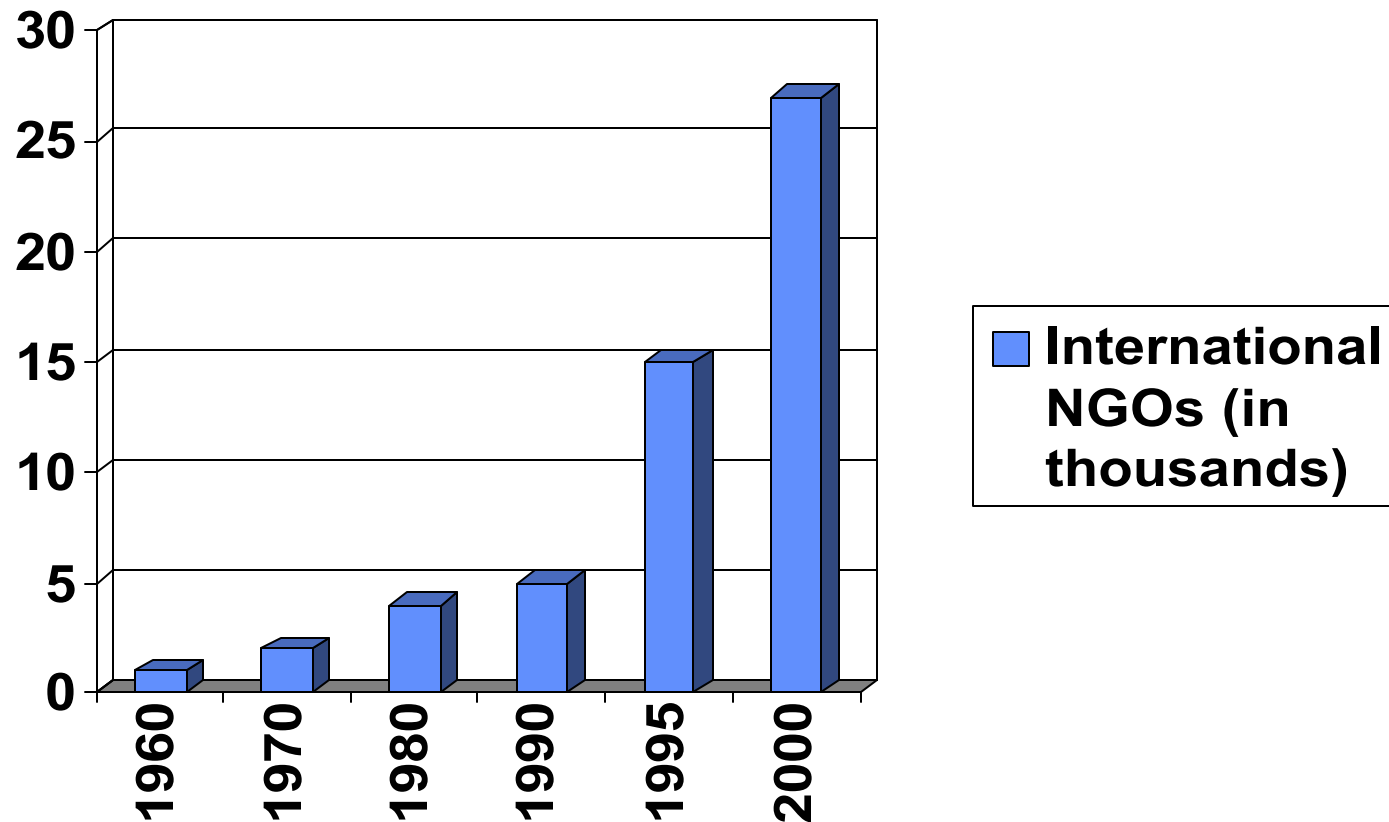
**Attachment 7**

# It's the End Customer



Attachment 8

# The Rise of Civil Society

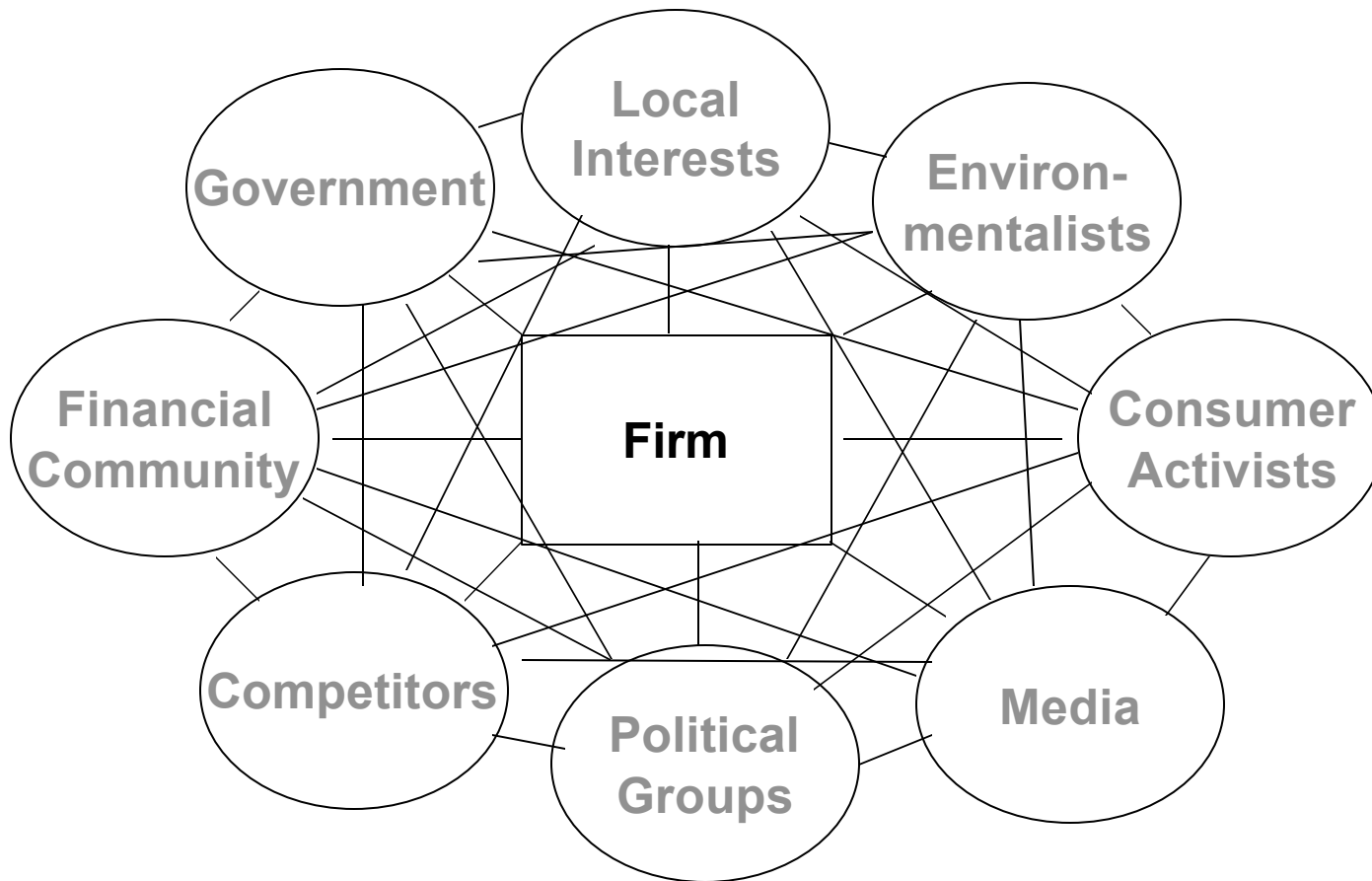


Source: The Economist, December 15, 1999

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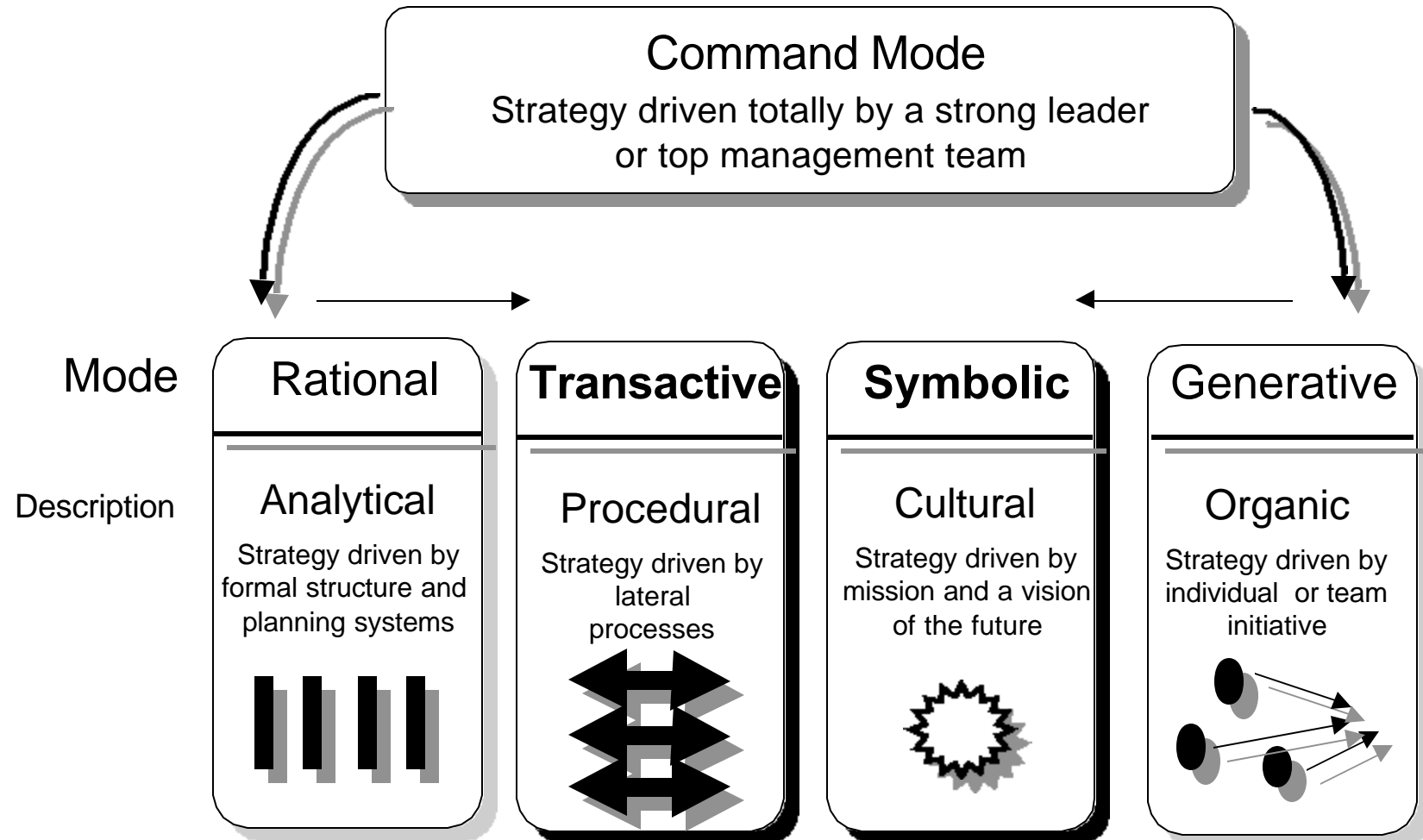
**Attachment 9**

# Stakeholder Networks



Attachment 10

# Beyond the Vision Thing



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Attachment 11

# Monsanto's Strategic Process Portfolio

Generative  
Mode

Tomorrow

Symbolic  
Mode

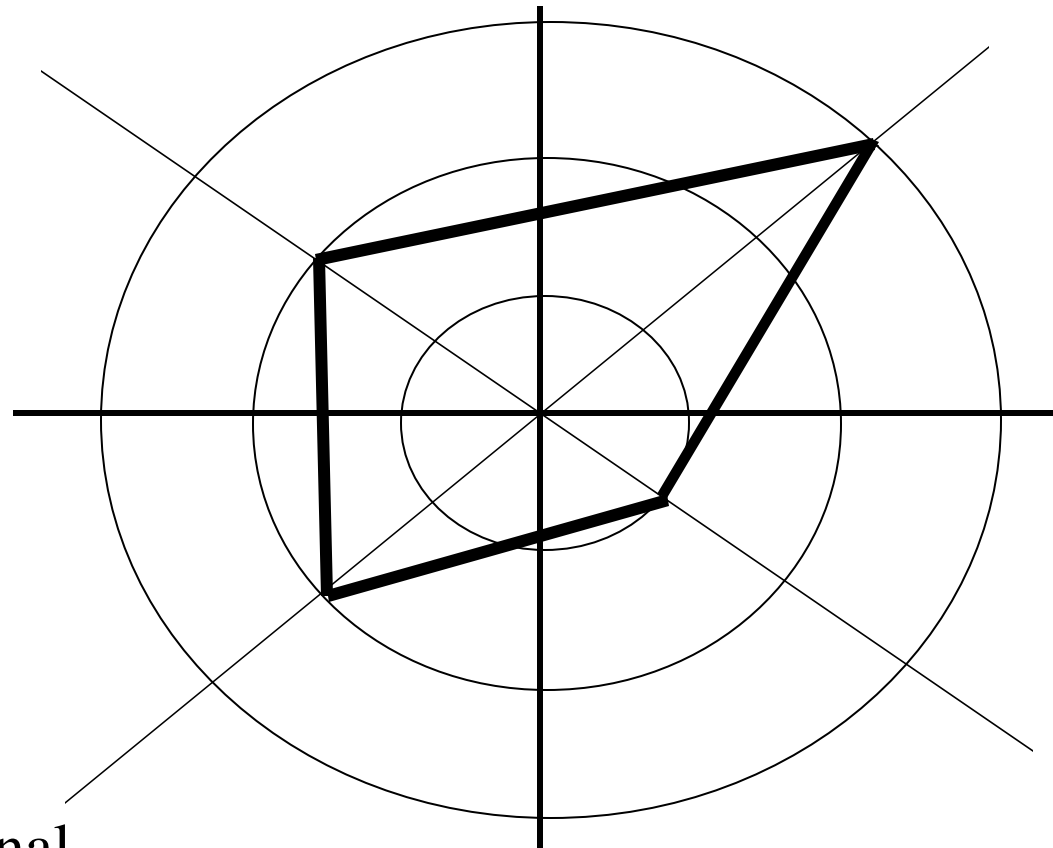
Internal

External

Rational  
Mode

Today

Transactive  
Mode



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