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MANAGING COMPLEXITY: AN INTEGRATION OF ETHICS, MANAGEMENT, AND TECHNOLOGY VIEWED THROUGH THE DOW CORNING SILICONE IMPLANT CASE

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE DOCTORAL PROGRAM

IN CANDIDACY FOR DEGREE OF

DOCTOR OF PHILOSOPHY

BY

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JULY 1999

UMI Number: 9940064

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DEDICATION

To Larry

GLOSSARY

Autoimmune Disease: A disorder in which the body's immune system attacks the body's own tissues.

Class-action Suit: In some cases, several persons, such as shareholders or taxpayers or those equally wronged in a product liability claim, may bring a class action on behalf of themselves and all other persons having the same or similar interest.

Consequentialism or Consequence Ethics: An ethic that claims the rightness or wrongness of actions depends on their consequences.

Culture: Culture can be seen as: "... the pattern of development reflected in a society's system of knowledge, ideology, values, laws, and day-to-day ritual" (Morgan 1986, 112).

Metaphor: "Metaphor is often just regarded as a device for embellishing discourse, but its significance is much greater than this. For the use of metaphor implies a way of thinking and a way of seeing that pervades how we understand our world generally" (Morgan 1986, 12).

Product Liability: A "... liability imposed upon the manufacturer or seller of goods for harms caused by a defect in the goods, embracing liability for (1) negligence, (2) fraud, (3) breach of warranty, and (4) strict tort" (Anderson 1981, 18).

Rule Ethics: Rule ethics originated in the thinking of Immanuel Kant, who emphasized principles, laws, rules, and regulations. One of his principles is that that people have a right to be treated as ends and never as means to some ulterior purpose.

Silicone: Silicone is made by stringing together silicon and oxygen, the two most common elements of the earth's crust, and adding organic groups to form chains or polymers. Depending on the length and configuration of the polymer, the silicone can have nearly any consistency, including liquid, gel, or rubbery solid... came into widespread use [in the 1940's] for insulation, lubrication, and sealing.... it found almost immediate use in medicine because of its remarkable inertness in the human body (Angell 1997, 36).

Stakeholder: According to a recent view, "Any person or group affected by corporate decisions is a stakeholder..." (Beauchamp and Bowie 1993, 54).

Systems Technology: Sometimes termed 'soft' technology, systems technology refers to those applications of scientific or other organized knowledge to practical tasks that are not hard tools. Examples may be the legal system, the medical system, or governmental systems.

Tort: A private injury or wrong arising from a breach of duty created by law.

Virtue Ethics: "An ethics in which personal and corporate integrity occupies the place of central concern and focus (Solomon 1992, 108).

ABSTRACT

This dissertation is a contextual examination of an ethical organizational dilemma complicated by elaborate and interrelated systems or soft technologies. Dow Corning's silicone breast implant case is analyzed by example, to show the usefulness of a more varied, flexible, and multi-faceted approach to ethics and management in the midst of a rapidly expanding technological society. This case represents an ongoing managerial crisis that demonstrates why integrated ethical analysis is not a theoretical or historical practice but one of vital and critical social importance.

Through qualitative analysis, this study addresses an ethical and managerial crisis from three broad perspectives of ethics, technology, and organizations. The ethical analysis is based on the three constructs of rule ethics, consequence ethics, and virtue ethics. The systems technologies reviewed are the medical system, the legal system, the Federal Food and Drug Administration (FDA), the media, and the consumer groups. Finally, as this research provides insights for practical and ethical management, an organizational analysis is included that views corporations as machines, systems, and cultures.

The multi-faceted organizational and ethical assessment used in this study enhances the creative and disciplined thought required in today's generally complex, ambiguous, and paradoxical business environment. The Dow Corning silicone implant case

demonstrates how systems technologies in an insular rules-based culture caused a corporation reputed for high ethical principles to suffer bankruptcy for alleged unethical and illegal conduct. An organizational culture based predominantly on rules and consequences requires decision-makers with broad perspectives on moral character and virtue. Managers need broader ways of understanding organizational life to better prepare a corporation for both ethical and financial success in today's rapidly changing technological society. A holistic perspective provides extensions of ethical understanding and development, opportunities to ensure stakeholder rights, and increased probabilities for organizational survival and growth.

CONTENTS

CHAPTER 1

INTRODUCTION

This dissertation examines how soft or systems technology influences ethical managerial and organizational effectiveness. The thesis is that an integrated concept of ethics, management, and technology are necessary to successfully deal with the effects caused by the rapid pace of technological change. The ethical analysis is based on the three constructs of rule ethics, consequence ethics, and virtue ethics. Five soft technologies reviewed are the medical system, the legal system, the Federal Food and Drug Administration (FDA), the media, and consumer practices. Finally, as this is an analysis intended to provide insights for effective management, an organizational assessment is completed using the metaphors of institutions as machines, systems, and cultures. The examination of one corporation's ethical and managerial difficulties is strengthened by this integrated and interdisciplinary approach.

Dow Corning's silicone breast implant case is examined to exemplify how systems technology in an American culture caused a company reputed for high ethical principles to file for bankruptcy protection for alleged unethical and illegal conduct. This case clearly illustrates how contextual ethical and managerial analysis is of vital and critical social significance in understanding the impact of modern technology. As it is an

ongoing ethical case and ethical analysis is a continuous process of review and deliberation, Dow Corning is examined for its usefulness in testing this comprehensive and evolving approach.

The Case

Dow Corning Corporation, a $1.9 billion conglomerate in 1993, was formed in 1943 by two giants of industry, Dow Chemical and Corning Inc., primarily to seek market possibilities for a novel technical product, silicone. One of the most innovative products developed by Dow Corning in partnership with two plastic surgeons was silicone breast implants. First manufactured and marketed in 1964, the Dow Corning silicone breast implant device led the market by 1980.

In 1976, Dow Corning was one of the first multinational corporations that voluntarily designed and implemented a company ethics program. The program, devised by the Chief Executive Officer and supported by an executive business conduct committee, was introduced to all employees the following year through printed guidelines and training programs. The closing injunctions in the ethics code called on all employees to perform not just to the *letter* but also to the *spirit* of the code. (See Appendix A)

This clear and comprehensive business code attracted wide attention and won broad approval. Harvard Business School approached

Dow Corning in the early 1980's to report on the effectiveness of the business

code program. The Harvard Business School Press published a 1984 case study that praised the exemplary leadership of the corporation at a time when confidence in business morality was low. It particularly noted that the corporate executives were committed to the code, while at the same time demanding the positive and active commitment of their senior staff. One assurance from Dow Corning's business conduct guidelines is especially significant:

> We will seek to establish an atmosphere of trust and respect between business and members of society, an atmosphere where business and the public understand, accept, and recognize the values and needs of each other (Dow Corning Code of Conduct 1984).

Major troubles began for Dow Corning when the first legal action against the firm alleged that silicone was a dangerous implant substance. In 1985, a recipient of silicone breast implants sued the corporation and won a $1.7 million court ruling , which declared that the product caused autoimmune disease. In 1991, the corporation was again found guilty of fraud, oppression, and malice in another suit, and was charged $7.34 million in damages. By 1992, over 10,000 suits had been filed in the silicone breast implant industry, and in 1994 Dow Corning filed for bankruptcy. Throughout the crisis, the corporation maintained that it had done nothing wrong. Citing the firm's written commitment to safety, information sharing, and its code of conduct, management responded to

the allegations with the argument that there was no legal requirement from the Food and Drug Administration (FDA) to test medical devices or to follow any other safety regulations. Since the FDA did not regulate medical devices until 1978, the basis for Dow Corning's position was that it had broken no existing rule. Again, this legal defense seemingly contradicted the *letter* and the *spirit* of the company code:

> We will continually strive to assure that our products and services are safe, efficacious, and accurately represented in our literature, advertising, and package identification. Product characteristics, including toxicity and potential hazards, will be made known to those who produce, package, transport, use, and dispose of Dow Corning products (Dow Corning Code of Conduct 1984).

Because of this apparent contradiction, news reports often applied such terms as malice, fraud, deceit, arrogance, and negligence to the corporation during its legal battle.

The Focus

Dow Corning descended from being a paragon of virtue in 1984 to a corporation found guilty of malice, oppression, and fraud in 1991. By 1998, there was still no conclusive scientific evidence that the implants cause disease. How Dow Corning operated influenced its downfall as much as the facts of the various lawsuits. A company that overtly tried to operate ethically failed by not making its code of conduct an integrated and actionable practice. Ethical theories, systems technologies, and organizational metaphors were construed too narrowly.

The operating postulate of this study is that a holistic, integrated analysis is required in order to effectively understand the issues and recommend managerial reforms. This analysis reaches no firm conclusions on the moral or legal culpability of those involved but rather, the focus and purpose is to use theories of ethics, organizations, and networks of expanding technologies to identify critical elements in the crisis.

The methodology followed in this study is first to summarize the Dow Corning silicone breast implant case. Secondly, an examination is conducted of aspects of the corporate system, the medical system, the legal system, the regulatory agency, the media, and the consumer processes as they may affect the case. Thirdly, this expanded review will be examined in light of three ethical approaches: rule ethics, consequence ethics, and virtue ethics. The study concludes with an assessment of Dow Corning according to three organizational metaphors of machine, systems, and culture.

If corporations broaden their focus from rule ethics to include consequence ethics and virtue ethics, employees will be better prepared to effectively address business problems. If corporations investigate consequences, which include their range and scope, they will understand the need to collaborate closely with their technology networks or other systems of knowledge. These technology networks may include

customers, the government, suppliers, employees, and the community; in other words, all stakeholders.

Awareness of and dialogue on expanded perspectives and the need for integration are important, and this study will provide practical methods that managers can adopt to orchestrate change. In order to transform an organization into a broader, more integrated system, managers need to understand how their personnel make sense of their work environment. When corporations like Dow Corning still function on the Industrial Age level, under the machine metaphor of command and control, their rules and regulations will suffer similar failures. This study demonstrates how a corporation with insular and narrow perspectives cannot thrive in today's rapidly changing technological society.

Three Ethical Approaches

On a practical level, ethics involves applying the principle of moral conduct to one's actions. People generally want meaning in their lives, and that sense of meaning is generally linked to living *the good life* and achieving true happiness. It is the day-to-day process of making morally right decisions that ultimately leads to a good life and a good society. As social beings, some people recognize that the good of the individual and the good of society are interrelated, and basic codes of ethics govern these relationships.

The silicone implant inquiry had broad social implications in reference to ethical conduct. Applying rule ethics, consequence ethics, and virtue ethics as a framework, this study will examine the nature of the ethical practices that were espoused but not followed by a capital-driven and technology-dominated corporation such as Dow Corning. Rule ethics that provide a practical ethical framework originated in the thinking of Immanuel Kant, who emphasized principles, laws, rules, and regulations. His underlying assumption was that people have an innate right to be treated as ends and never as means to some ulterior purpose.

The second ethical system applied here is consequence ethics, which is based on the original theories of Jeremy Bentham and John Stuart Mill known as utilitarian ethics. Consequence ethics limit actions to those whose consequences result in more good than evil, both the short-term and the long-term, for the majority of those affected. In this instance, consequence ethics apply to breast implant recipients and to company stakeholders, such as the shareholders, employees, customers, suppliers, and the community. Shareholders are owners of the corporation and officially have control over the company, however, society has recognized that today's business organization has evolved beyond its fiduciary responsibility into a multipurpose social institution giving shareholders broader responsibilities to expanded networks of stakeholders.

Under consequence ethics, the decisions of professionals such as executives, government officials, scientists, lawyers, and physicians must

also be evaluated in light of technological challenges and market pressures. Most professions have long operated under codes of conduct, such as those of the American Bar Association or the American Medical Association, but today, technology has exacerbated their problems. Some authorities, such as Jacques Ellul, Hans Jonas and Langdon Winner, believe that once a technology has begun, it is difficult to stop. It has become, in a sense, autonomous. Thus, even with a background of strong ethical codes, when managers foresee questionable effects, they feel compelled to continue present practices. Whether with positive or negative results, the new and expanding technological discoveries will have its effect on society. It is appropriate here that the consequences of the ethical decisions and actions of professionals connected to the Dow Corning implant case be analyzed in terms of their range and scope. This means that ethical decision-making must consider all possible outcomes – negative and positive.

A third ethical framework used to assess the moral decision-making process involved in the silicone breast implant case is character, or virtue ethics. Virtue ethics are founded on the classic philosophy of Aristotle. This ethic considers the moral awareness of the critical decision-makers in any ethical dilemma. Virtue ethics synthesize rules and obligations on the assumption that decision-making is guided by virtuous, ethical people. While personal introspection and moral awareness are emphasized in virtue ethics, a corollary principle is that ethical behavior can be improved