Beyond the Profit Motive: The Post-Industrial Corporation

WILLIAM E. HALAL

Editor's Note
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ABSTRACT

Global approaches to solving the world problematique are augmented in this paper by a grassroots approach which may encourage the business corporation to evolve into an organic post-industrial form. This post-industrial model embodies two main concepts. One involves the development of social accounting frameworks that encourage the pursuit of social welfare rather than financial profit alone. Results are presented of a computer simulation of such a framework, called the "return on resources" model. The second concept suggests that systems of corporate governance be extended to form a corporate community composed of investors, employees, customers, the public and others involved in corporate affairs in order to facilitate collaborative policy making. These two complementary principles comprise a broader equivalent of free enterprise that provides more appropriate decision-making processes for post-industrial society. This post-industrial paradigm of corporate behavior is believed to be technically feasible, and trends suggest that its adoption is quite possible. The power of business corporations could thereby be transformed into a humanitarian force for achieving sustainable increases in human welfare.

Since the publication of the limits-to-growth study in 1972, many policy-makers have come to appreciate the urgent and interrelated nature of the global crises which the Club of Rome has called the "world problematique." Also, a more rigorous scientific perspective is rapidly being developed to address these problems using various techniques for modeling the world as a complex but unified system. Although these developments represent an almost revolutionary advance in worldwide awareness and commitment to change, progress toward the implementation of corrective action seems limited.

A Grassroots Approach to the Problematique
The major limitation of a macroscopic approach to solving the world problematique was effectively described by one of the pioneers in world modeling, Jay Forrester, who

WILLIAM E. HALAL is Associate Professor of Management at the American University, Washington, D.C. He has a wide range of experience and education in the physical and social sciences, with degrees from Purdue and Berkeley. His special interests include Management of Science & Technology, Long-Range Planning and Policy Studies, and Institutional Change.

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pointed out that there is a strong tendency to pass problems up the social hierarchy in the hope that higher authorities may somehow resolve them [1]. It is tempting to look to federal governments and world organizations to curb population growth, protect the environment, alleviate the food shortage and pursue many other causes which have been laid at these doors. More recently, however, policy-makers have become disillusioned upon realizing that these problems remain largely unaffected by such Herculean efforts.

The problem of implementation now seems to be a far more fundamental one involving the very nature of existing social institutions, which are inappropriate for a world they were never designed to accommodate. As a result, it is becoming evident that global approaches to resolving the problematique are lacking in institutional mechanisms that may convert this newly gained understanding into effective remedies. Edward Cornish, President of the World Future Society, expressed it well recently:

As we survey the array of institutions that we have in the world today, there does not seem to be any obvious place for the needed leadership to begin to develop, and we may have to face the fact that the present institutions are simply not capable of providing the leadership needed to surmount the growing crisis. [2]

Many futurists now recognize the need to create an entirely new social order based upon "organic" principles of social structure, which will permit the development of a microscopic, grassroots foundation of social systems for handling these problems. In doing so, the world problematique could not only be addressed from the "top down," but also from the "bottom up." Although it is generally agreed that such organic systems should be based upon a loosely connected network of decentralized units of productivity with the capability for democratic local planning [3], the ability to bring this ideal into reality is limited to a small number of experimental situations and vague theoretical concepts.

A post-industrial model is described here of the most powerful institution for creating change in modern society—the large, publicly owned business corporation—which is potentially capable of evolving into such an organic system. The model reflects a newly emerging perspective in management science, incorporating organic principles of organization based upon general systems theory and information technology, and it embodies an extension of the Western principles of free enterprise capitalism and representative democracy. Some early but strong evidence of trends in this direction will be described, which indicate that this model may represent a modified corporate form that is more compatible with the conditions of limited physical growth and fragile social interdependencies now evolving.

The Corporate Crisis

Many of the obstacles to achieving a sustainable planetary society emanate from the archaic nature of present corporate structures, which were developed to suit the needs of the past century of industrialization. These industrial origins persist today in the prevailing ideology of business—which is principally oriented toward the pursuit of profit to serve the firm's stockholders. It is also reflected in corporate power structures that are controlled by officers who are presumed to represent the interests of stockholders. At the national level, capitalist societies employ a "mixed" economic philosophy that includes laissez-faire policies relying upon the competitive marketplace as well as various forms of governmental regulation which have been adopted to curb the abuses of free enterprise. It is important to recognize that this industrial model has been a highly successful solution to the difficult demands of the industrial past.
However, as Daniel Bell [4] and others have pointed out, the developed world has been dramatically altered during the past decade or so by the emergence of a post-industrial era. The crucial changes underlying this historical development involve the diminishing importance of industrial activity as the social focus, just as agriculture receded from its dominant role in agrarian societies as the industrial revolution matured. Industrial capacity remains essential, of course, just as agriculture continues to be important now, but the agrarian and industrial eras can be seen retrospectively as evolutionary stages leading to a new order of civilization. Because the technical capability for agricultural production and industrial manufacturing are fully developed in advanced nations, these post-industrial societies are inexorably introduced to unprecedented challenges focusing on more subtle and complex problems that emerge at the frontier of human development. These involve the resolution of increasing social and political discord in order to harness newly discovered human capabilities, and the development of theoretical knowledge and sophisticated information systems which offer powerful new levels of understanding. The awesome difficulties which have arisen during the past few years are harbingers of this more complex world that is emerging from its industrial shell. Thus, the development of social and information technologies has replaced physical technologies as the dominant need of post-industrial society.

This transition to a post-industrial era has undermined the social foundations of business and thereby created an institutional crisis for major corporations. There exists a growing awareness that present forms of corporate behavior embody structural limitations which seriously impede the operation of a complex post-industrial economy. Because corporations focus almost exclusively on financial factors, they systematically exclude increasingly important social considerations from business decision-making, such as the effects of industrial processes on the environment [5]. A vast and growing realm of such “externalities” now exists, and these social impacts comprise the major problems in today’s complex post-industrial society which are unattended. Another serious imperfection is that the principle of market competition is increasingly a fiction in the large industries that are dominated by a few giant corporations, whose assets often exceed those of major world powers. In fact, many respected critics [6] argue that capitalist economies are subtly controlled for private purposes by a small number of corporations wielding an enormous concentration of economic, social, and political power through a system of price leadership practices, persuasive advertising, public relations programs, political lobbying, and even illegal actions.

These limitations of the industrial corporate model are exacerbated because the public’s expectations for corporate performance increase rapidly in post-industrial societies [7]. It is not surprising then, that opinion polls like the Harris survey indicate that the proportion of the public expressing confidence in major corporations has continued to decline steadily from 55 percent in 1966 to 16 percent in 1976: To make matters worse, the only alternative national policy for insuring that firms serve the public welfare—government regulation—has also been found to be seriously defective. It is increasingly clear that regulatory agencies usually protect the very industries they are intended to monitor, while creating a bloated bureaucratic apparatus. Government regulation becomes exceedingly costly in a complex post-industrial economy and it often stifles badly needed business innovation and personal freedom.

For these reasons, the difficult transition to a post-industrial era has caused the existing system of corporate behavior to become increasingly dysfunctional. Corporations remain committed to a relentless exploitation of limited natural resources to fuel an
overgrown system of industrial technology that fouls the environment. Diminishing gains in economic productivity are responsible for much of the crippling "stagflation" of today. Multinational firms are apparently unable to collaborate effectively with nations in the Third World that require assistance. A variety of other difficult and well-known problems are also caused by the structural limitations of the industrial model of the corporation which has greatly contributed to the world problematique.

The Post-Industrial Corporation

For the past few years, my colleagues and I have been engaged in an effort to develop a somewhat different model of the corporation which is "rationally" designed to operate more effectively under post-industrial conditions of limited physical growth. The model is based upon the "open-system" concept, which views the firm as the hub of a complex extended system involving a variety of constituent subsystems, all of which are essential to its operations. These constituencies include investors, employees, customers, the public, and other firms with which the corporation conducts business.

This model encompasses a broader perspective in which the corporation's conventional financial boundaries are extended to include these other constituent subsystems, thereby formally recognizing the mutual interdependence among all essential components of economic activity. From this broader holistic viewpoint, the role of the corporation is to unite these subsystems into a coalition engaged in creating social value for distribution among the various constituencies. The traditional industrial model of the corporation, therefore, merely represents a special case of this more general model in which the interests of one particular constituency—stockholders—dominates the corporate system.

There are two complementary aspects of this post-industrial model that are intended to overcome the limitations of the existing corporate model. A social accounting framework which we call the "return-on-resources" model extends present financial information and decision-making systems to include social considerations, and a political system of governance is suggested to enable the constituencies of the firm to unite into an extended corporate community.

THE RETURN-ON-RESOURCES (ROR) MODEL

Table 1 illustrates specific features of the relationships between the firm and its constituencies in terms of the return-on-resources (ROR) social accounting model. For each constituent group, the prominent exchanges conducted between the group and the firm are summarized in one of three forms: resources which the group invests in the relationship, the benefits the group is provided and the costs it incurs. Summing this information, we are able to obtain estimates of the total resources, benefits, and costs for the entire corporation, as well as a measure of the overall return on all resources it employs.

The ROR model provides a comprehensive view of corporate performance which includes all of the social transactions conducted between the corporation and society. Whereas the limited financial model of corporate behavior was intended to maximize return-on-investment alone, the open-system model poses the objective of maximizing the return on all resources employed by the corporation. This framework thereby constitutes one approach to the development of a "corporate social audit," which has been of interest to the business community for the past few years [8].

In an attempt to develop the methodology required to make the ROR model operational and also to gain rough estimates of the major factors involved, the model was
TABLE 1
Return-on-Resources (ROR) Model

<table>
<thead>
<tr>
<th>Constituent Group</th>
<th>(R) Resources Invested</th>
<th>(B) Benefits Provided</th>
<th>(C) Costs Incurred</th>
<th>(B−C)/R Return on Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>Equity/Debt Capital</td>
<td>Dividends/Interest</td>
<td>Capital Losses</td>
<td>Return on Investment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capital Gains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>Upbringing</td>
<td>Wages &amp; Fringe</td>
<td>Disabilities</td>
<td>Return on Human Resources</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>Training</td>
<td>Meals &amp; Travel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Training</td>
<td>Job Satisfaction</td>
<td>Job Dissatisfaction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customers</td>
<td>Purchase Price</td>
<td>Utility (Consumer Surplus)</td>
<td>Product Damage</td>
<td>Return on Purchases</td>
</tr>
<tr>
<td></td>
<td>Search Cost</td>
<td></td>
<td>Depreciation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>The public</td>
<td>Public Assets</td>
<td>Taxes</td>
<td>Government Services</td>
<td>Return on Public Assets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contributions</td>
<td>Environmental Damage</td>
<td></td>
</tr>
<tr>
<td>Associated firms</td>
<td>Assets of Other Firms</td>
<td>Sales of Other Firms</td>
<td>Expenses of Other Firms</td>
<td>Return on Assets</td>
</tr>
<tr>
<td>Total Corporation</td>
<td>Total Resources</td>
<td>Total Benefits</td>
<td>Total Costs</td>
<td>Return on all resources</td>
</tr>
</tbody>
</table>

implemented in a study employing a computer simulation of typical corporate behavior. The simulation utilized a well-known computer-based business "game" with a long history of reliable use in management training at schools of business. Data for the study were obtained from typical use of the game with graduate business students and employed professional business managers. In addition to the data from this simulation, various social accounting methods [9] were developed to transform these data into measurements of social factors and some assumptions were necessary for data not contained in the simulation. For instance, corporate behavior vis-à-vis employees was determined using concepts that have been developed by labor economists for estimating the effective return which various professionals (such as engineers or physicians) realize on the investment in their educations. For customers, corporate performance was obtained using historical corporate sales data to derive estimates of the depreciated value of the firm's products in use, and typical price-demand relationships were used to estimate "consumer surplus" as a measure of the benefits purchasers derive. More detailed aspects of our methodology are described in the Appendix.

Of course, there are many technical and scientific difficulties which persist concerning such social accounting methods. In this study, operational use of the model involves complex problems of measuring numerous poorly defined social factors, and much of the required data is not ordinarily available. Legitimate questions also arise concerning the accuracy with which the computer simulation represents typical corporations. However, notwithstanding these limitations, we have concluded that the model represents a reasonably valid description of the corporation as an extended institutional system. Although the level of accuracy of various estimates is believed to be in the range of 10–20 percent,
this degree of possible error is sufficiently small to permit the conclusions that follow, which only concern the relative order of magnitude of various factors rather than specific values.

Typical results are presented in Table 2 in the form of a “return-on-resources statement” which comprises a more general equivalent of traditional corporate financial reports. If these data are at all reasonable, several conclusions become apparent. First, the open-system model starkly reveals how inadequate a view of corporate performance is provided by financial models alone. The figures at the bottom of Table 2 are roughly an order of magnitude greater than the strictly financial equivalents that are commonly reported for the investor subsystem. By not considering these social counterparts to its financial activities, the corporation grossly distorts its true impact on society, so that it is no longer realistic to ignore social factors in corporate policy making. Many corporations with enviable records of financial success, for example, may be responsible for creating serious net losses to society because these social costs have not been considered. Some such social accounting model, therefore, appears essential if we hope to direct economic behavior in a reasonably enlightened fashion which may increase not profits alone, but the total amount of social welfare created by the corporation.

Also, it is seen that investors may not hold a unique position in the corporation, contrary to conventional beliefs. Other constituent groups also seem to provide substantial inputs in the form of resources invested, they receive comparable benefits, and they risk similar costs. Thus, on the basis of this evidence, there exists a general equivalence of all constituent groups, which indicates that there is no intrinsic or “rational” reason why stockholders should be entitled to a preferential claim on the corporation.

Finally, these findings indicate that the corporation behaves as a synergistic system. The total benefits produced seem to exceed greatly the costs taken as inputs, resulting in the creation of considerable net value as a total gain for the corporate system. The corporation does not appear to be merely a vehicle for the simple redistribution of resources in the manner of a zero-sum game. Instead, the character of corporate activities represents a positive-sum game in which the successful integration of diverse constituent inputs may be synergistically transformed into social value.

The model we have described above represents the type of conceptual framework which is essential for understanding the more complex and intangible considerations that

<table>
<thead>
<tr>
<th>Constituent Group</th>
<th>(A) Resources Invested</th>
<th>(B) Benefits Provided</th>
<th>(C) Costs Incurred</th>
<th>(B–C) Net Return</th>
<th>(B–C)/R Return on Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investors</td>
<td>94,993</td>
<td>$583</td>
<td>$234</td>
<td>$349</td>
<td>3.5%</td>
</tr>
<tr>
<td>Employees</td>
<td>6,520</td>
<td>1,691</td>
<td>57</td>
<td>1,634</td>
<td>4.5</td>
</tr>
<tr>
<td>Customers</td>
<td>0,533</td>
<td>4,066</td>
<td>2,249</td>
<td>1,817</td>
<td>17.3</td>
</tr>
<tr>
<td>The public</td>
<td>2,536</td>
<td>338</td>
<td>375</td>
<td>–37</td>
<td>–1.4</td>
</tr>
<tr>
<td>Associated firms</td>
<td>507</td>
<td>314</td>
<td>312</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>Total Corporation</td>
<td>$10,089</td>
<td>$6,992</td>
<td>$3,228</td>
<td>$3,765</td>
<td>6.3%</td>
</tr>
</tbody>
</table>
are becoming urgent in post-industrial society. These needs have been recognized before, as in the following sketch by Daniel Bell:

What we need, in effect is a System of Social Accounts which would broaden our concept of costs and benefits, and put economic accounting into a broader framework. The eventual purpose would be to create a "balance sheet" that would be useful in clarifying policy choices. [10]

THE EXTENDED CORPORATE COMMUNITY

As indicated, the traditional corporation has focused almost exclusively on financial activities to satisfy the firm's stockholders. Although corporations also attempt to please other constituencies as well—particularly their customers—the welfare of these other constituencies has been regarded as merely a constraint upon the overriding goal of profitability. That is, the firm was believed to exist for the purpose of serving its owners, while the obligations to other constituencies were thought to be means to that end. The justification for this behavior appears to lie in the fact that industrial entrepreneurs who founded small privately held firms were true owners in the original meaningful sense of that term, and the fact that investment capital was the critical, limiting factor of economic production during the period of industrialization. This formed the basis for the principle that the firm was the "property" of its "owners," who were therefore accorded special rights over its control.

That may have been a valid reason in the past, but it is not true for the large corporations of today that have become quasi-public institutions, and the limiting factors of progress in post-industrial society involve social and intellectual resources rather than physical resources. The historical trend seems clear: In agrarian societies, the power to control the means of production is exercised by landowners; in industrial societies, it is accorded to holders of capital; whereas, in a post-industrial era, power is expected to shift to those who command people and information. Thus, the dominance of stockholder profit as the goal of the corporate system is merely an artifact of the industrial past rather than a necessary function of the modern corporation.

This conclusion is in keeping with the concepts of modern decision theory, such as the work of Herbert Simon who has pointed out the arbitrary distinction between organizational goals and constraints [11]. Within any organizational system, the various variables of the system may be treated as either goals or constraints, depending upon the value choices of the decision-maker. To illustrate, it is clear that corporations must satisfy the perceived demands of their various constituent subsystems in order to obtain the resource inputs these subsystems provide. Stockholders must receive an attractive financial return in compensation for providing investment capital, employees must receive equitable wages and working conditions to retain their services, customers must obtain value from their purchases if they are to continue their patronage, and so forth. From this array of variables comprising the complex "goal-set" of the firm, one or more may be arbitrarily chosen as goals to be maximized—subject to the constraints of the remaining variables.

Although the traditional goal of corporate behavior was to maximize stockholder profit while holding the welfare of other constituencies at minimum acceptable levels, in principle it would be equally feasible to set profit to stockholders as a constraint and maximize the value customers receive, the welfare of employees, or other possible goals. In fact, some firms do deviate from the orthodoxy of profit maximization and are successfully operated for the principal benefit of their employees or customers [12]. Thus, the post-industrial model illustrates the inherently political nature of the corporation which is usually hidden from view, but is now rapidly emerging into public consciousness. Business
ness firms are unavoidably involved in essentially political issues because the very nature of corporate activities requires arbitrary choices concerning the allocation of rewards to various constituencies of the corporation.

Traditionally, these decisions have been made under the doctrine of executive "stewardship" whereby the presumably enlightened judgment of businessmen was allowed to resolve the conflicting demands of the corporate community. More recently, however, the development of a much more sophisticated and cynical social atmosphere has called this rather paternalistic arrangement into question. Employees, consumer groups, the public, minorities, and other constituencies have created a host of new demands upon the corporation for the satisfaction of their particular interests [13]. These trends have enormously increased the complexity of the corporate environment, thereby posing serious problems for firms which continue to adhere to the industrial model.

However, our social accounting studies suggest that this conflict is unproductive and unnecessary because the firm is capable of behaving as a positive-sum game. Although some aspects of corporate behavior involve zero-sum conflicts—especially over the short-term—if properly managed to form a workable coalition, the extended corporate system should be able to produce larger gains for all constituent groups. The essential nature of the post-industrial corporate system, therefore, involves the successful integration of diverse social subsystems into a common community of interests from which all parties may benefit. This view of the corporation as an extended community indicates the importance of developing a political counterpart to the social accounting system previously discussed. Adequate information is a necessary prerequisite for valid decision-making, but it is not a sufficient condition. The other requirement is to develop legitimate systems of governance which permit those affected by the unavoidable value choices involved in any economic community to influence policy-making functions.

Because of the great diversity of corporate conditions, no one form of governance is indicated. In accordance with the "contingency" perspective which today dominates organization theory [14], various types of governance may be appropriate depending upon such contingent factors as the nature of the firm's activities and the preferences of the constituent parties. Small firms in routine and highly competitive fields such as the retail distribution of common consumer goods (drug stores, for instance) may simply remain controlled by free market forces as they are now, permitting individuals to make appropriate choices from the many opportunities offered by the market. On the other hand, there also exists a growing interest among some cultural sectors in forming small democratically controlled cooperative firms of various sorts.

The greatest need for such extended systems of governance is among the large corporations which dominate major industries like auto manufacturing, the oil companies, multinational firms, and the like. Such corporate giants are usually in complex technological fields that produce great social impacts, they are too large to be controlled by the market, and they are often involved in activities of an inherently sensitive nature such as environmental or political issues. These are the major corporate powers in industrialized nations which pose especially great needs for the resolution of differences in the corporate community, and thereby require more elaborate policy-making systems.

Some large corporations are in fact changing their managerial systems for this purpose by creating special offices with vice presidential status charged with "Consumer Affairs," and the like. Additionally, many respected authorities are proposing sweeping revisions of the political structure of corporations whereby employees, customers, and the public are represented on corporate boards [15]. Also, some constituent groups are now organizing into powerful political forces to influence corporate policies, such as the
consumer movement. The conclusion of this trend strongly implies the "politicalization" of the major corporation such that the various constituencies affected by its actions jointly share in its governance as an extended corporate community, similar to the fashion in which democratic political systems now govern cities, states, labor unions, and a wide variety of private organizations. The political differences inherent in the large corporation may thereby be directly confronted, enabling an extended economic community to coordinate more successfully the essential contributions of its constituent elements. Such an arrangement could directly insured that the corporation serves its intended constituencies—whose collective interests precisely comprise the public welfare by definition.

There are serious difficulties inherent in creating democratic political systems of governance for the firm. The most obvious problem, of course, involves the potential for destructive conflict. For several reasons, it is believed that this possibility is not so severe as it might initially seem. An extensive body of knowledge and professional practices has been developed over the past few decades to facilitate effective organizational processes of this type, and these social technologies are being used increasingly as a valuable aid for such purposes [16]. Effective functioning of the democratically operated corporation would also be encouraged by having a large number of independent constituencies on the board of directors. The lack of such dispersion of power is precisely the weakness of existing forms of industrial democracy which only involve employees and management, thereby creating "head-on" confrontations. The additional presence of representatives from consumer groups, associated firms, local communities, and Federal governments should discourage the possibility of inordinate power by any one constituency. Also, it is important to note that the board of directors is responsible only for the formulation of major corporate policies, and not for operating matters—which are the province of the president of the corporation. Thus, a system of checks and balances exists, similar to the relationship between the executive and legislative bodies in government.

Of course, there are many other complex and difficult issues involved in democratic systems of corporate governance which are beyond the scope of this brief paper. In the final analysis, disruptive conflict is always a possibility. However, conflict among the constituencies of the corporation is not created by political systems of governance—it exists now as a normal part of economic life. The issue in question does not concern whether or not corporations should have political systems of governance; they already do have tacit political systems—which are almost exclusively controlled by executives. Rather, the question is who should participate in the systems that must invariably exist?

If we hope to transcend the unproductive divisiveness which has alienated members of society from their economic institutions, it will be necessary to begin by making these institutions responsive to the constituencies they must ultimately serve. There is little doubt that democracy is often a disorderly and uncertain process, but it is the most effective form of governance for adapting to the change and complexity which increasingly characterizes the future. The development of workable democratic systems, drawing upon newly evolving social and information technologies, is an essential challenge of the post-industrial frontier. Alvin Toffler summed it up nicely:

...we now have the potential for achieving tremendous breakthroughs in democratic decision-making if we make use of the new technologies, both "hard" and "soft", that bear on the problem. [17]

**Beyond the Profit Motive**

The model of a post-industrial corporation we have described does not define specific solutions to the problems of achieving a sustainable form of economy. The infinite
complexities of economic activity would render any such precise design almost meaningless in today's world. Rather, it describes structures and processes by which substantive solutions can evolve organically. The ROR model outlines the type of social accounting framework which is essential for obtaining quantitative estimates of corporate social performance as a factual basis for decision-making, and the concept of the extended corporate community describes systems of governance which enable the intuitive judgments, political compromises, and personal cooperation that are necessary for acting upon this information to form viable joint decisions. These two principles can be seen as being mutually complementary to one another, and they collectively form a post-industrial economic paradigm that is based fundamentally upon capitalist principles of free enterprise and democratic systems of representative government. Based upon our studies, my colleagues and I believe that this paradigm may lead to more productive forms of corporate behavior that are more closely attuned to the true needs of a post-industrial society.

At the conceptual level of the individual, social accounting systems may provide comprehensive information regarding costs and benefits in a usable decision-making format. This information offers various constituencies the ability to improve their welfare by making knowledgeable choices in pursuit of their enlightened self-interest. Employees could evaluate how well their jobs compare to others they could possibly obtain, customers may be able to evaluate the net value derived from various products, communities would find it possible to determine how beneficial or detrimental is the presence of a firm in their city, and so forth—just as investors have been able traditionally to compare the financial gains they may obtain from various firms.

At the level of the firm, similar results would be encouraged by the interaction of these constituent groups. The conflicts between the interests of various constituencies should become more clearly exposed to scrutiny, enabling the political system of the extended corporate community to resolve such choices in a manner that is most acceptable to all parties. Through the political process of bargaining and compromise, incremental decisions may be reached which are more equitable for all parties and more optimal for the system as a whole. Corporate management should therefore assume the role of facilitator of this process with the aim of bringing about more cooperative relationships to produce synergistic gains for the corporate system.

If the constituencies of the firm assume active decision-making roles, then the managerial function becomes modified in the post-industrial corporation. Paradoxically, such possibilities may offer executives increased power because they are thereby able to transcend their normal responsibilities for operating decisions in order to focus on the corporation as an entire institutional system. In keeping with this broader role, managerial performance should no longer be judged solely by the return-on-investment, but by the extent to which the corporation is able to realize an attractive "social profit" on all resources which are invested in the firm. Thus, the post-industrial model incorporates indicators which serve as a means of holding corporate executives accountable for the social performance of the firm. If these are reasonable prospects, the post-industrial paradigm may allow society to harness the rational productive power of business corporations to serve the goals of social progress.

This paradigm also has significant implications at the societal level. Because the open-system nature of the ROR model focuses on boundary transactions conducted between the corporation and its constituencies, this general approach also provides a rigorous conceptual "suprasystem" for describing the complex array of institutional relationships comprising modern societies. The corporation serves as the hub of this institutional
infrastructure by connecting investors, labor unions, consumers, corporate clients, government agencies, and other institutions to form a complex network of interorganizational relationships [18]. Such corporate social accounting systems, therefore, promise to constitute an important foundation for the more ambitious framework of social indicators now being developed to evaluate social performance for society at large [19].

As indicated, appropriate decisions are not directly forthcoming from this paradigm. The paradigm only lays bare the possible choices and allows decision-makers to confront the difficult trade-offs between various social benefits and the costs that are entailed. In doing so, however, the power of information subtly guides human behavior by providing negative feedback in the form of costs which discourage indulgent consumption patterns—for instance, the use of large automobiles—and it offers positive feedback of advantageous innovations such as solar energy which should be adopted. The conceptual framework is sufficiently general that it accommodates various approaches for “internalizing” costs and benefits, such as the use of tax penalties for pollution. It also may incorporate “discounting” vs “premium” concepts to reflect future costs and benefits, such as the expected shortage of fossil fuels. Thus, social accounting models offer the potential for reaching more optimal decisions concerning sustainable levels of growth over the long-term by anticipating future resource limitations in the form of increases in present values which discourage current consumption.

Through the use of social accounting information by an extended corporate community, many of today’s social ills may be resolved because economic decision-making would encompass all elements of a comprehensive organic system. For instance, an important cause of inflation could be addressed because the corporate community would bring labor representatives into direct contact with customers over the issue of wage increases versus product price increases. By doing so, the inflationary spiral which occurs now as management grants excessive wage increases and then passes these costs on to customers could be broken. It can be seen, therefore, that a major cause of the problem is that much of today’s economic behavior is so disjointed that social costs are not causally related to the responsible actors in the economic system. Other similar examples include the costs of pollution which are borne indiscriminately by all, the costs of resource depletion which are passed on to future generations, and so forth.

From the preceding discussions, the underlying impact of the post-industrial paradigm is hopefully revealed, which is seen to consist of two fundamental forces—knowledge and power. The cause of the apparent resistance to addressing the world problematic is probably not that persons and nations are apathetic, selfish, or foolish. The causes are much more basic than that. It is simply that useful information is extremely limited concerning the options available at the grassroots level where change must occur, and there exists very little opportunity to influence significant economic decisions. The post-industrial paradigm describes an approach by which adequate information may be made available, and it provides the means by which power may be dispersed to act upon economic decisions more effectively. By attacking the existing problems of ignorance and powerlessness directly, we hope to go to the heart of the difficulties in the social order and thereby initiate basic grassroots forces for creating organic social change.

This perspective will not alleviate all important aspects of the world problematic, but there are good reasons to believe that such an approach could foster considerable improvement in essential areas. The measurement of social costs and benefits of technological processes, for instance, should facilitate more knowledgeable decisions regarding environmental control by making the costs of pollution explicit. This would be
an especially powerful control mechanism if tax-like disincentives were levied upon corporations by communities in accordance with such cost estimates. Similarly, it is expected that recycling of materials could be encouraged by indicating the total costs of raw material extraction—energy costs, disposal costs, fabrication costs, etc.—in comparison to the lesser costs of reusable materials. Many other such problems associated with the development of a sustainable state would be automatically addressed merely by the inclusion of full social costing in business decisions.

Another impact of the post-industrial paradigm would be experienced in the operations of multinational corporations. By extending information and control of corporate operations in less developed countries to include local host governments, consumers and labor forces, more effective working relationships may be established between these local constituencies and the multinational firm. In developing such coalitions, the explosive gap between the rich and poor sectors of the globe could be converted into an alliance for economic world progress, as Herman Kahn forecasts. Over the very long term, the population problem could possibly be brought under control through these developments. It has become clear that the main factor which limits population growth is the process of modernization itself. By accelerating the process of economic growth in less developed nations, the post-industrial corporation may help high fertility populations move quickly through the industrial stages of development, after which population growth almost invariably stabilizes as we have seen in almost all advanced societies today.

Although these are speculative and somewhat utopian possibilities, they represent logical extensions of the post-industrial paradigm which offer feasible and attractive policies for guiding corporate behavior more successfully in the future. Developments of this magnitude do not occur in five or ten years. But if the social changes that are now moving in these general directions can be further encouraged, it is believed that some such form of future corporation could occupy an important world role before the turn of the century. This accomplishment could release powerful new energies through the social and information technologies of a post-industrial era, which may exceed greatly the power of the physical technologies that dominated the industrial past. Economic systems may thereby evolve into more sophisticated equivalents of the materialistic, profit-centered institutions of today, opening the way toward a humanistic way of life existing beyond the profit motive. These possibilities have been effectively described by Arthur C. Clarke:

... politics and economies will cease to be as important in the future as they have been in the past; the time will come when most of our present controversies on these matters will seem as trivial, or as meaningless, as the theological debates in which the keenest minds of the Middle Ages dissipated their energies [201]

Toward a Post-Industrial Capitalism

The concept of corporate behavior we have just described is obviously quite foreign to our present experience. Not only would the sheer technical difficulty of creating and operating such complex information systems be enormous, but very different social and political cultures are unavoidably involved. If society is unable to create the more rational form of corporation that now seems possible, the continuation of existing corporate systems suggests a pessimistic future scenario in which corporations continue to exacerbate the world problematic, while governments respond by escalating attempts at corporate regulation into a fruitless battle of giants.

Although there are many serious problems involved in moving toward this alternative form of capitalism, in the author's judgment they do not pose exceptional obstacles. Our studies lead us to believe that such a model is not only technically feasible, but that this
form of corporate behavior seems to be evolving now. Concerning technical considerations, we have concluded that the development of a full social accounting model is quite feasible in principle, especially considering the huge capabilities in computer systems, management science, and other relevant fields which are rapidly developing in this direction. Psychologists, economists, and other social scientists have been actively engaged in related problems of social measurement for some years now, and many similar frameworks are being developed in "human resource accounting," the "corporate social audit," and other types of social accounting models [21].

The cultural and political obstacles are probably the most severe barriers, although there are many indications that suggest a social movement is occurring in this direction. Europeans are rapidly creating a veritable political revolution by implementing various forms of industrial democracy—which many respected observers like the London Economist consider inevitable. Within the U.S., a significant change in business ideology has been occurring in the formation of an ethic of corporate social responsibility that is widely accepted now as a legitimate goal for business. Also, the consumer movement has reached a point of maturity such that consumer advocacy organizations now represent a powerful political force in most advanced nations, and public interest groups which are often as influential as political parties roam the political landscape as modern day vigilantes seeking to settle public grievances.

As a number of prominent researchers have pointed out, a highly significant shift in values and norms also appears to be emerging to form a post-industrial culture which encourages a more humanistic form of capitalism. Some opinion surveys, for instance, indicate that a majority of the U.S. public is so disenchanted with large corporations that they now favor seating consumer and employee representatives on corporate boards [22]. Many observers suggest that these events are mere hints of a deeper renaissance which will soon blossom throughout all social institutions. Such a social transition seems unavoidable if the world hopes to resolve the severe difficulties that have been created by an obsolete industrial order.

In general, we suspect that changing the corporation in this fashion is rather similar to the experience of the labor movement years ago, and more recently the civil rights and women's movements. After the initial cultural shock subsides, corporations may be pleasantly surprised to discover that these more reasonable forms of conduct are actually better for all concerned, including stockholders and business executives—who now shoulder unreasonable burdens of decision-making responsibility alone. Rather than "managing" the various constituencies of the corporation from a defensive posture as they do now, executives should be able to move toward a more effective and dignified role as cooperative partners with a representative board of directors. They could also be relieved of much onerous government regulation by assuming responsibility themselves for the social welfare of the economic community they effect. In our judgment, this should constitute a far more workable definition of corporate leadership in the future. Also, although investors may fear financial losses as a result of dethroning the goal of financial profitability, ironically, the resulting gain in corporate effectiveness could provide investors comparable or possibly even greater returns, especially in comparison to the dismal performance of the stock market in recent years.

Thus, we feel that sufficient social change is in motion to encourage further moves in the direction outlined above. Several modes of implementation seem possible. A particularly desirable recommendation would be to develop further the technical capability for such social accounting models or portions thereof, and to gain operational experience in
their use with willing firms, employee organizations, consumer groups and communities. This technological base is essential to shaping the intellectual understanding upon which a post-industrial paradigm must rest. Governments could assist by gradually imposing requirements for including social impact information in corporate reports—as they are now beginning to do—and they could require the representation of major constituencies on corporate boards. However, these requirements should be kept to a minimum, applying only to large corporations in sensitive industries. Further, such comprehensive forms of regulation could be offset by eliminating many of the existing detailed regulations that would thereby be rendered unnecessary. Government could also play a supportive role which would encourage such innovations by providing research funds and advice—at it has done in many other instances. In the final analysis, the concept of a post-industrial corporation must probably grow or die of its own merits as a more productive form of enterprise and a more civilized form of social behavior. Thus, the notable success of pioneering firms in adopting such concepts may provide the greatest impetus for widespread implementation.

If effective leadership is available to move industrialized nations in these general directions, the development of a post-industrial capitalism may follow an approximate timetable in which social accounting systems find increasing use over the next 10–20 years, while political control of major corporations is simultaneously extended to include a wider range of constituents. Should this be accomplished, an optimistic scenario of the future may be possible in which the corporation evolves into a more humanistic organism, employing social and information technologies to facilitate the collective welfare of the economic community it forms.

By incorporating the major social elements that are affected by corporate activities into this community, the post-industrial corporation could become a powerful economic force operating at the grassroots level for managing the planet under sustainable-state conditions. It would be encouraged to utilize natural resources sparingly and to minimize its environmental impact and other social costs, while creating new social benefits through the productive collaboration of its constituencies. These advantages may be especially fruitful for multinational corporations by providing more harmonious relationships with nations in the Third World. Most importantly, all this could be realized while maintaining the freedom that decentralized forms of social control preserve. But, of course, such happy prospects remain mere shimmering visions until they are brought into reality by an existential act.

Appendix: Methodology

The following sections describe briefly the methods employed in estimating social accounts for the various constituencies of the corporation.

INVESTORS

As a constituency of the corporation, the group of investors is comprised of stockholders who own various equity securities issued by the firm and bondholders owning various debt securities. The evaluation of corporate performance vis-a-vis investors is, of course, the most straightforward and well-established portion of the ROR model. The value of the capital resources invested in the firm was determined by calculating an average of the present market values of various securities during the year. The benefits received were directly measured by the annual amount of dividends paid to stockholders and the interest payments made to bondholders, as well as the potential capital gains which could be
realized by both groups from annual increases in the market value of their securities. Conversely, costs are incurred, of course, if the market value should decline. The net difference between these benefits and costs results in an estimate of the net gain or loss, which, divided by the capital resources invested, results in the percent return-on-investment (ROI) for various classes of securities for the year. Summing these estimates of resources invested, benefits provided, and costs incurred for all types of securities permits obtaining the ROI for the entire group of investors.

EMPLOYEES

The evaluation of corporate performance from the perspective of employees draws on concepts which have been developed by labor economists for estimating the effective return which various professions (such as physicians) realize on the investment in their professional educations, and upon various other concepts more recently being developed in the field of human resource accounting. The investment in human resources which employees make in the corporate enterprise can be calculated in terms of the costs associated with “developing” a labor force. These consist of the costs associated with raising children to the age of employment, costs of education and training, and so forth. We conservatively estimated this investment to amount to $36,000 per non-professional employee and $52,000 for each professional employee. Benefits received by employees mainly consist of annual wages and fringe benefits paid, although we also added small additional sums to represent annual costs associated with job training provided by the firm, and an annual wage “premium” to represent the value employees attach to a highly satisfying job. Costs incurred by employees were estimated by assuming conservatively small figures for job incurred disabilities, an annual wage “discount” to represent the cost associated with a highly dissatisfying job, and miscellaneous costs of employment such as meals, travel, and so forth. Using these estimates, an aggregate measure of annual performance—“return-on-human resources” (ROHR)—is obtained in the same manner employed to calculate ROI for investors.

CUSTOMERS

The firm’s customers make a capital investment if they purchase products or services with appreciably long life spans, such as automobiles, appliances, and medical services. We estimated this investment by capitalizing the product price over an expected useful product life of ten years. This investment depreciates over the product life until it finally reaches salvage value. Thus, the total capital resources invested by customers was calculated by summing the firm’s sales revenues, less accumulated depreciation, for past years in which products retain useful life. This information is readily obtained from corporate sales records and represents the depreciated value of the firm’s products presently in use. We conceptualized the benefits received by customers as the “utility” they derive from the product. This may be estimated using the economic concept of “consumer surplus,” defined as the highest price various purchasers would pay for the product in excess of the established price, which is represented by a triangular area lying under the product’s price-demand curve. A price elasticity of 1.0 was assumed to calculate consumer surplus and added to the sales revenue to estimate the total customer utility, which was then evenly distributed over the product life. Summing these calculations over the past years of the firm’s sales then results in an estimate of the total annual benefits being provided by the firm’s products now in use. The costs incurred by customers was obtained by calculating the straight-line depreciation of product costs over the useful product life, and estimat-
ing a small additional cost for maintenance, etc. Costs are also summed over the past years of product sales to estimate the total costs being borne by all customers now using the firm’s products. Using these estimates, an aggregate measure of annual corporate performance regarding customers is thereby obtained, which is called “return-on-purchases” (ROP). It should be noted that the audit of an actual firm could employ present market values, rather than depreciation schedules, to obtain more accurate estimates.

PUBLIC
Public groups affected by the firm’s activities consist of metropolitan communities, states, and nations in which the firm operates. Governments at these various levels provide the economic infrastructure consisting of roads, utilities, schools and other public assets which are essential for corporate operations. The portion of such public assets invested in the firm’s use was estimated by allocating the value of public assets in proportion to the revenue generated by various firms. The annual public benefits the firm provides include taxes it pays as well as voluntary contributions of funds and services. A wide variety of public costs may possibly be attributed to the firm, such as operating expenses associated with governmental administration of public services, costs resulting from environmental and socio-cultural impacts, and the like. As with other constituent groups, all these factors may then be combined to obtain an aggregate measure of performance which may be described as the “return-on-public assets” (ROPA). Because of the very complex and uncertain nature of this aspect of corporate involvement, very rough estimates were necessary for the above factors. Thus, the resulting figures should be regarded more as illustrative examples rather than true estimates.

OTHER FIRMS
Suppliers, distributors, and various other firms conducting business with the “client” corporation may be grouped together. These other firms may be considered to invest resources in the client firm since they devote some portion of their assets to providing the client products and services. To estimate the value of such investments, we merely assumed that the assets of such firms were allocated in proportion to the sales conducted with their various clients. Benefits received by these other firms are precisely equivalent to the sales revenue obtained from the client, and costs incurred are also directly measured as actual operating expenses allocated to various clients. The difference between these latter two figures is, of course, the financial profit realized by these other firms, which results in the “return-on-assets” (ROA) employed in conducting business with the client corporation.

Notes and References
3. For instance, see the views of Toffler, Alvin, The Eco-System Report, Bantam, 1975.
22. See results of the nationwide poll conducted by Hart Research Associates, reported in *Common Sense* 3(3) (1975).

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