

CHAPTER 4: RESULTS

This chapter reports the results of the data collection through surveys, secondary sources, and the KLD database. The results are provided in eight sections: survey population including nonrespondent population²⁰; control variables; independent variables; dependent variables; systems approach analysis; design-performance relationship based on industry; design-performance relationship based on specific stakeholder subdimensions, and *a posteriori* cluster analysis. A brief description of the success of the survey is followed by descriptive statistics for the context dimensions, or control variables. Then the design dimensions are presented, with separate descriptive sections and tables for each design dimension: structural configuration; human resource policies and incentives; control systems; strategic planning; and, organizational ethos. After the design dimensions are individually analyzed, the use of these dimensions to determine a deviation distance is presented. As described in Chapter 3, the deviation distance is a Euclidean distance for each firm from the ideal-type profile. The distance is then tested with the outcome dimension, or performance measure, to determine any correlation with design and performance.

Following this analysis for all the firms together, three additional analyses are conducted. First, the firms in each industry are tested for a correlation between design and performance. This controls for industry and accounts for the variations between industries and related environments. A second analysis examines the relationship of stakeholder-specific design elements (such as a member of the community as an outside

²⁰ The differences in the CSP scores is analyzed for the group of respondents, those firms that did not respond, and the entire database together. This is intended to examine any response bias (such as well-performing companies responded, but poor-performing companies did not).

member on the board of directors) and the stakeholder-specific CSP measures (such as the Community dimension in the KLD database). This is an exploration only, because this study was designed to look at organizational design elements intended to address the multiple-constituent relationship. However, comparing stakeholder-specific design elements and subsequent CSP ratings for that stakeholder relationship is a natural outgrowth of this research. Finally, a cluster analysis by firm is conducted to determine possible equifinal designs and by variable to determine design dimensions from the empirical results.

The inter-item scale reliability analyses and factor analyses of the design dimensions are included in Appendix 3 so as not to distract from the discussion of results related to the hypothesized design-performance relationship. The statistical analyses were conducted on SPSS[®] (1997). A summary of the chapter is provided in the final section to highlight the findings.

4.1 Survey Results

A four-page survey as described in Chapter 3 and included in Appendix 2 was mailed to 655 firms. The surveys were generally addressed to the General Counsel of the firm or another senior-level vice president of the firm. A cover letter was enclosed (see Appendix 2) and a return envelope was provided. One mailing was sent April 1, 1998, and another mailing was sent May 19, 1998, to the firms which had not responded to date (521 firms).

A total of 120 usable surveys were returned by June 14, 1998, for an 18.3%

return rate.²¹ The majority of surveys were returned within the first six weeks, with an average return time of 27 days. Most respondents included copies of the firm's mission or vision statement. Several firms also sent supplementary reports on environmental performance or the firm's code of ethics or ombudsman program. For some companies, I did an additional search on the Internet for the firm's webpage and downloaded copies of the corporate philosophy or principles or mission.

One survey was returned that was not usable because the survey did not indicate from which firm it was sent. One survey was returned with less than 10% of the questions filled out. In addition, twenty-nine firms (4.4%) sent letters indicating that they do not participate in surveys. For those surveys that did not include information on the firm's credo or mission, I looked on the Internet for what they published on the firm's webpage. In two cases, I obtained annual reports to get more information.

A concern in studies such as this is social desirability response (SDR) in the respondent population. As shown later in Section 4.4, the response population was not significantly different than the total population (all 655 firms in the KLD database) for the dependent variable of CSP score. Therefore, firms which scored below the average score were just as likely to send back a response as firms which scored above the average score.

Within the response population, those firms which responded early to the survey were not significantly different than those which responded later. The average response time was 27 days, with a standard deviation of 14 days, and a median of 23 days. A

²¹ An executive summary of the results will be sent to those respondents who requested a report.

median split was performed on the 120 firms, and the resultant mean differences for each control, independent, and dependent variable were compared using *t*-tests. Of the split samples, the earliest half had an average response time of 17 days, while the later half had a response time of 37 days. For the control variables of size and industry, the split samples did not differ significantly. Except for the structural-configuration design dimension, the independent variables of the split samples did not differ significantly. For the structural-configuration design dimension, those firms that responded earlier were more likely to have less structural-configuration design features. Those firms that responded later had significantly more committees or appointed board members for stakeholder concerns, which leads to a greater structural-configuration design dimension rating, and, thus, a closer deviation distance to the ideal-type profile. Of the dependent variable, CSP, the split samples did not differ significantly. On only one of the KLD sub-dimensions, Other, did the firms differ: The first half were rated better (scored higher) than the latter half of the firms were.

4.2 Control Variables

The control variables in this study are the macroorganizational context dimensions of size and industry. The following sections illustrate the distribution of size and industry in the respondent population compared to the overall population of firms in the KLD database. The control variables are also discussed in subsequent sections as appropriate.

4.2.1 Size

Size was measured by the number of employees reported in the Standard & Poor

Corporate Information Handbook (1998) reference book. If no information was available, the information was taken from the KLD database. Table 4.1 provides the distribution of the number of employees for the firms that responded and for all of the firms in the KLD database. As shown in Table 4.1, the respondent population was similar to the sample population in distribution of the number of employees. For data analysis, the number of employees was an interval variable; however, for presentation in Table 4.1, the number of employees here is grouped for ease of presentation. The average number of employees is 30,360, with the smallest firm reporting 148 employees and the largest reporting 371,702 employees. The largest subgroup ranged from 10,001 to 50,000 employees. The respondent population was very similar in distribution to the KLD population, with the greatest difference in the 5,001 to 10,000-employee-sized firm at 3%. A chi-squared distribution (χ^2) test indicates the χ^2 statistic is 1.715 and 6 degrees of freedom with an asymptotic significance of 0.944, so there is no significant difference between the respondent population and the population of the database firms in terms of size.

Table 4.1: Size

Number of Employees	Firms Responded To Survey (Percent of Total)	All Firms in the KLD Database (Percent of Total)
0-500	3 (2.5)	10 (1.5)
501-1000	2 (1.7)	12 (1.8)
1001-5000	24 (20)	132 (20.2)
5001-10,000	19 (15.8)	123 (18.8)
10,001-50,000	52 (43.3)	274 (41.8)
50,001-100,000	14 (11.7)	67 (10.2)
100,001+	6 (5.0)	37 (5.6)
<i>TOTAL</i>	<i>120</i>	<i>655 (100)</i>

4.2.2 Industry

Each firm was placed in an industry category in the KLD database. The ten industry categories provided by the KLD database are shown in Table 4.2 with the total number of firms in the database and the number of firms which are represented by the returned surveys. The distribution of industries in the respondent population was similar to the distribution of industries overall in the database. The one exception is that of the natural resources industry (e.g., chemicals, forest and paper products, mining, natural gas, and oil), which accounts for 14.4% of the entire database but 20.8% of the returned surveys.

A chi-squared distribution (χ^2) test indicates the χ^2 statistic is 10.095 and 9 degrees of freedom with an asymptotic significance of 0.343, so there is some difference between the respondent population and the population of the database firms in terms of industry. However, the most-represented industries in the respondent population were the same categories as those in the KLD population: the consumer industry, the industrial, construction and housing industry, the natural resources industry, and the financial services industry.

Table 4.2: Industry Category

Industry	Number (Percentage) of Firms in KLD Database	Number (Percentage) of surveys
Business and Professional Services	24 (3.7)	6 (5)
Computers and Technology	65 (9.9)	8 (6.7)
Consumer	137 (20.9)	18 (15)
Drugs and Medical Services	42 (6.4)	5 (4.2)
Financial Services	87 (13.3)	16 (13.3)
Industrial, Construction, and Housing	90(13.7)	15 (12.5)
Natural Resources	94 (14.4)	25 (20.8)
Printing, Publishing, and Telecommunications	40 (6.1)	10 (8.3)
Transportation	20 (3.1)	4 (3.3)
Utilities	56 (8.5)	13 (10.8)
<i>TOTAL</i>	<i>655 (100)</i>	<i>120 (100)</i>

4.3 Independent Variables

Five design dimensions were used to measure organization design for this study: Structural Configuration, Human Resources Policies and Incentives, Control Systems, Strategic Planning, and Organizational Ethos. In this section, the results for each dimension are reported and the subsequent ratings of firms for each dimension are presented. The reliability and factor analyses for each design dimension are included as Appendix 3.

4.3.1 Structural-Configuration Design Dimension

The structural-configuration design dimension consists of two factors, or subdimensions: (1) the structure of top management to address stakeholder concerns, ethics, and social responsibility; and, (2) the board-level structure for inclusion of stakeholders by internal

committees, appointed representative, and/or outside members of the firm on the board of directors.

First, the internal structure of the Boards of Directors is examined. Based on the responses, so few firms had outside members in the board (members from stakeholder groups on the board) that the information was summarized differently. At the end of this section, an overall measure of structural configuration is determined by standardizing the aggregate score on these three subdimensions. A position on the board for corporate scanning of the social environment was found to be highly correlated with the presence of committees or appointed members on the board for other stakeholder-specific concerns; therefore, the board-level scanning position is combined in the internal structure analysis of the board. The following discussion of the structural configuration measurements and results is given below.

4.3.1.1 Board of Directors -- Internal Structure

This structure subdimension for the structural-configuration design dimension accounts for the structure of the board of directors by examining the presence of committees for stakeholder issues, the appointment of a board member to address these issues, and the presence of a board-level corporate social environment scanning position. Firms were more likely to have a board committee or appointed board member to represent the concerns of stakeholders (e.g., Corporate Responsibility Committee and Community Affairs) than to have an outside member of the board from a specific stakeholder group. The lowest representation on the board was for product and supplier issues (23% had a

board committee or representative to address product issues, and 15% had a board committee or representative to address supplier issues); however, several respondents wrote that these two issues were implicit in the conduct and considerations of the board. Almost half of the firms, 43%, responded that they had an employee representative on the board, although several respondents indicated that the representative was the human resources officer -- this is more of a management representation of employees. The environment-as-a-stakeholder received considerable attention, as 38% of the respondents indicated the board had a committee or representative designated for environmental issues. The greatest percentage of representation of stakeholders was that of the public interest: 50% of the respondents claimed representation of the public interest, sometimes through a board committee for social responsibility. Approximately one-third of the firms indicated that there was a committee or board member responsible for community issues (34%), issues of minorities (37.5), or women's issues (32.5).

While the presence of committees on a board of directors is indicative of the concerns of the firm, the emphasis seems to be on the protection of the firm from these stakeholders. Based on the comments on the returned surveys, I believe many boards had designated representatives or committees (formal or informal) to consider various stakeholders, but only to the extent that the stakeholders could impact the organization, not examining the impact of the firm on the stakeholders.

Table 4.3: Board of Directors: Internal Structure and Committees

Stakeholder	Percent of Firms With a Board Committee or Appointed Board Member To Represent Stakeholder Concerns or Issues
Public Interest or Public Responsibility	50
Employees	43
Environment	38
Community	34
Minorities	37.5
Women	32.5
Product Quality / Consumers	23
Suppliers	15

Additional analyses shown in Appendix 3 indicate that these design elements correlated well with each other. Finally, the nine individual design elements (not including size and CSP) are correlated with each other at a significance level of 0.006 or lower as shown in Table 4.4.

The activity of corporate social scanning, or scanning the environment for social trends and issues that may impact the firm, was undertaken at either the board or the management level. Approximately one-third of the firms (31%) had a committee or member of the board responsible for scanning the corporate environment for social trends or social issues, and 47% had such a position or department at the management level. The presence of a management-level scanning position was highly correlated with the presence of a board-level scanning position (0.388***, $p < 0.001$).²² The board-level scanning position was included in this structure subdimension to measure the

²² Throughout Chapter 4, the significance level is indicated as $p < 0.05$, $p < 0.01$, or $p < 0.001$. Asterisks may be used as well to indicate level of significance: * ($p < 0.05$); ** ($p < 0.01$); and, *** ($p < 0.001$).

consideration of stakeholder interests at the board of directors level by the presence of a committee or appointed additional duty. The nine design elements used to develop this structure subdimension were strongly correlated with each other as shown in Table 4.4. Correlations ranged from 0.896*** ($p < 0.001$) to 0.217* ($p < 0.017$).

Table 4.4: Board of Directors: Correlation Matrix With 2-tailed Significance

N=120	Product/ Customer	Suppliers	Employees	Environment	Public Interest	Community	Minorities	Women	Scanning Position	Size	CSP
Product/ Customer	1										
Suppliers	0.761*** 0.000	1									
Employees	0.551*** 0.000	0.433*** 0.000	1								
Environment	0.335*** 0.000	0.293** 0.001	0.417*** 0.000	1							
Public Interest	0.433*** 0.000	0.327*** 0.000	0.471*** 0.000	0.480*** 0.000	1						
Community	0.475*** 0.000	0.435*** 0.000	0.434*** 0.000	0.408*** 0.000	0.615*** 0.000	1					
Minorities	0.427*** 0.000	0.398*** 0.000	0.538*** 0.000	0.451*** 0.000	0.568*** 0.000	0.603*** 0.000	1				
Women	0.459*** 0.000	0.456*** 0.000	0.470*** 0.000	0.514*** 0.000	0.480*** 0.000	0.551*** 0.000	0.896*** 0.000	1			
Scanning Position	0.272** 0.003	0.326*** 0.000	0.217* 0.017	0.364*** 0.000	0.415*** 0.000	0.432*** 0.000	0.415*** 0.000	0.500*** 0.000	1		
Size	0.159 0.088	0.192* 0.038	0.241** 0.009	0.254** 0.006	0.160 0.117	0.061 0.514	0.189* 0.041	0.244** 0.008	0.320*** 0.000	1	
CSP	-0.106 0.247	-0.105 0.252	0.013 0.886	-0.149 0.104	-0.102 0.269	0.012 0.894	-0.068 0.458	-0.102 0.269	0.031 0.739	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

A variance inflation factor (VIF) was calculated to check for multicollinearity. The design elements for minorities and women were the only two items with a VIF > 0.4, with VIFs of 6.720 and 6.609, respectively.

Six design elements were correlated with size of the firm: a committee or designee for employee issues (0.241**/.009), a committee or designee for environmental issues (0.254**/ 0.006), a committee or designee for supplier concerns (0.192*/.038), a committee or designee for minority issues (0.189*/.041), a committee or designee for women's issues (0.244**/.008), and a board-level scanning position (0.320***/.000). The design elements were not correlated with CSP; however, size was negatively correlated with the overall CSP score at -0.257** (p = 0.005).

This may mean that firms with an overall CSP score (or poor CSP reputation) have tried to counter that by having a member or committee tasked to scan the corporate environment for social trends and issues. However, the negative correlation indicates that the position is not necessarily effective in improving the perception of the firm's corporate social responsiveness. Another explanation for the negative correlation is that firms with higher CSP scores do not use this design element to encompass stakeholders and identify or address social issues, but possibly use other, more stakeholder-specific, design elements. These findings may also indicate (as Greider, 1992, stated and Miles, 1987, implied) that the aim of well-articulated design for external relations is to control and manipulate the environment, which would indeed lead to low CSP scores.

4.3.1.2 Board of Directors -- Outside Members

This structure subdimension consists of the representation of stakeholders by having outside members of the board of directors from various stakeholder groups. The representation of stakeholders by outside members of the boards of directors was

significantly less than that by inside members or committees. Approximately 36% of the firms have an outside member of board from the community, specifically as a representative of the community. Based on the annual reports for many of these firms, the outside member is usually a businessperson from the surrounding community, whose interests may be solely economic and not representative of the community-as-a-stakeholder interests, regardless of how you define community (e.g. on the board of a natural resources firm, the community member is the president of a local bank). Other stakeholder groups were rarely represented as shown in Table 4.5. Public interest groups, trade associations, and consumers are represented by outside board members at 7.5%, 6.7%, and 5.8%, respectively. Employees and the natural environment were represented in 4% and 5% of the firms, respectively, while diversity issues or non-profit groups for minorities and women were represented in about 4% of the responding population.

In a later section of this chapter, the individual design elements (such as the presence of a environmental representative on the board) are analyzed for associations with the individual KLD scores (such as the score for the KLD Environment Dimension).

Table 4.5: Board of Directors: Internal Structure and Outside Members

Stakeholder	Percent of Firms With an Outside Member of the Board From the Stakeholder Group
Community	35.8
Public Interest	7.5
Trade Group or Association	6.7
Consumers	5.8
Employees or Labor Union	4.2
Environment	5.0
Minorities	5.0
Women	3.3

Note that there were few firms that had members from stakeholder groups other than investors on the board of directors. The largest percentage of representation was for the community, with 35.8% of the firms having a member from the community on the board of directors.

The reliability analysis in Appendix 3 shows inter-item reliability, with a standardized item alpha of 0.6576.

Table 4.6: Outside Members: Correlation Matrix With 2-tailed Significance

N=120	Trade Assn. or Group	Consumers	Employees	Environment	Public Interest	Community	Minorities	Women	Size	CSP
Trade Association or Group	1									
Consumers	0.361*** 0.000	1								
Employees	0.279** 0.002	0.126 0.170	1							
Environment	0.245** 0.007	0.106 0.249	0.144 0.118	1						
Public Interest	0.304** 0.001	0.334*** 0.000	0.099 0.282	0.080 0.386	1					
Community	0.218* 0.017	0.185* 0.043	-0.069 0.455	0.068 0.462	0.249** 0.006	1				
Minorities	0.245** 0.007	0.269** 0.003	0.144 0.118	-0.053 0.568	0.225* 0.013	0.148 0.108	1			
Women	0.136 0.137	0.334*** 0.000	0.194* 0.034	-0.043 0.644	0.123 0.179	-0.042 0.649	0.383*** 0.000	1		
Size	0.078 0.406	-0.030 0.748	0.120 0.199	0.405*** 0.000	0.034 0.713	0.016 0.864	-0.073 0.432	-0.054 0.567	1	
CSP	0.001 0.992	0.126 0.171	-0.137 0.135	0.020 0.826	0.225* 0.014	-0.011 0.907	0.191* 0.036	0.105 0.256	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

A variance inflation factor (VIF) was calculated to check for multicollinearity. No design elements had a VIF of greater than 1.385.

4.3.1.3 Management Structure

This structure subdimension consists of those design elements at the management level that may be used to develop and report information and serve to encompass stakeholder concerns. The design of management to address ethical issues, issues of social responsibility, and stakeholder concerns varied among the firms. Table 4.7 shows the structural elements and is discussed below. Approximately two-thirds of the respondents (67.5%) indicated that they had a department or functional area specifically responsible for promoting ethics or social responsibility within the firm. In general, based on the comments from respondents, these department or functional areas were not exclusively for promoting ethics or social responsibility, but rather had such a task as part of other responsibilities such as internal audit, legal affairs, or public affairs.

Approximately seventy percent of the firms also responded that they had a member of top management specifically responsible for ethics or social responsibility. When asked for specifics of the title of the top management person and to whom this person reported, a range of answers was received. Two firms had full-time ethics officers who reported to the CEO and the Board of Directors. Other firms had executives who held the title of Ethics Officer in addition to other titles such as General Counsel or a Senior Vice President. For other firms, the responsibility was part of a vice president's job, even without the additional title, and several firms had two members of top management. Approximately one-tenth of the respondents (9%) listed the CEO as the responsible executive, reporting to the Chairman of the board of directors.

The reporting relationships also varied. The sample was evenly split between

reporting to the CEO and to the Board. One firm even had the Vice President of Internal Audit as the member of top management who reported to the Board of Directors.

Overall, 23% of the firms had neither a department nor an officer specifically responsible for ethics and/or social responsibility. Approximately two-thirds of the firms had a department or specific area for ethics and/or social responsibility (67.5%), a member of top management specifically responsible for ethics or social responsibility (69%), and 56% had both design features.

Table 4.7: Management Structure: Department or Officer

Design Element	Percent of Firms
1. Department or functional area	67.5
2. Member of Top Management	69.1
a. Ethics Officer (full or part time)	4
b. Senior Executive	59
c. CEO reporting to Board	9
3. Both a Department or Functional Area and a Member of Top Management	56

Another design element that was found either in conjunction with a specific department or person responsible for ethics or social responsibility is that of the management committee for such issues. Of the respondents, 42.5% indicated that they had a management committee for ethics and/or social responsibility. Further inquiry on the composition of this committee showed that 12.5% had non-management employees on the committee, and only 5% had people from outside the firm on the committee. Only three firms reported the inclusion of both non-management employees and outside members in the ethics committee.

Table 4.8: Management Structure: Management Committee

	Number (Percent) of Firms
No Management Committee	69 (57.5)
Management Committee with no employees or outside members	27 (22.5)
Management Committee with non-management employees	15 (12.5)
Management Committee with outside members	6 (5)
Management Committee with non-management employees and outside members	3 (2.5)
<i>Total</i>	<i>120 (100)</i>

A correlation matrix for the three design elements, size and total CSP score is provided in Table 4.9. Note that the three design elements are correlated with each other at a significance level 0.036 or less. None of the elements was correlated with size or CSP. A factor analysis and reliability analysis in Appendix 3 also show the relationship of these three elements to measure the subdimension of management structure.

Table 4.9: Management Structure: Correlation Matrix With 2-tailed Significance

	Department or Area	Officer	Management Committee	Size	CSP
Department of Area	1				
Officer	0.423*** 0.000	1			
Management Committee	0.237** 0.009	0.191* 0.036	1		
Size	0.168 0.070	0.088 0.346	0.127 0.173	1	
CSP	0.008 0.934	0.101 0.270	-0.052 0.572	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

A variance inflation factor (VIF) was calculated to check for multicollinearity. The design elements have VIFs not greater than 1.258.

4.3.1.4 Total Structure

To develop a single measure of overall structural-configuration design dimension, the following procedure was used. Each of the three structure subdimensions was standardized (mean=0; standard deviation =1), and then a simple average was taken of the three scores. The resulting measure of overall structure, Structure, had a mean of 1.7, a standard deviation of 1.1, and ranged from 0 to 5.

Table 4.10: Structural-Configuration Design Dimension Ratings

Rating	Number (Percent) of Firms
<=1	29
1> rating <=2	44
2> rating <=3	34
3> rating <=4	11
4> rating <=5	2
<i>Total</i>	<i>120</i>

Note: The median rating was 1.713 with a standard deviation of 1.049.

4.3.2 Human Resources Policies and Incentives (HRPI) Design Dimension

The HRPI design dimension rating was based on five design elements: the presence of an open-door policy, an ethics hotline, inclusion of employees in strategic planning, non-management employees on management committee for ethics or social responsibility, and the presence of an outside board member representing employees or a union. Originally the presence of a board committee or appointed member for employee

concerns and issues was to be included in assessing the HRPI design dimension rating; however, this item was strongly correlated with size (0.241**/.009) and was found not to be related with the other five items used for this scale. (See the reliability and factor analyses in Appendix 3.)

The majority of firms had at least one of the design elements present as shown in Table 4.11. A formal, open-door policy for employees to speak with managers was reported by two-thirds of the firms (67%). Almost the same number (65%) have an ethics hotline within the firm for employees to ask questions or to report possible ethics violations. Approximately one-third, 37%, of the firms included employees in the strategic planning process through focus groups or consultation and representation in the process. Of the 43% of firms that have a management committee for ethics or social responsibility, 35% include employees on the committee (for a total of 15% of all the firms). Only 4% of the firms had an outside member of the board from an employee group.

Table 4.11: HRPI Design Elements

Design Element	Number (Percent of Firms) n=120
Employees Included in Strategic Planning	44 (36.7)
Hotline	78 (65.0)
Employees on Management Committee	17 (14.2)
Open-Door Policy	80 (66.7)
Employee Outside Member of Board	5 (4.2)

A correlation matrix of the five items (employees included in strategic planning, a hotline, employees on a management committee for ethics or social responsibility, an

open-door policy, and an employee outside member of the board) with size and CSP is shown in Table 4.12.

Table 4.12: HRPI Design Elements: Correlation Matrix With 2-tailed Significance

	Hotline	Employees Included in Strategic Planning	Open-Door Policy	Employee Outside Member of Board	Employees on Mgt. Comm.	Size	CSP
Hotline	1						
Employees Included in Strategic Planning	-0.022 0.814	1					
Open-Door Policy	0.074 0.421	0.098 0.288	1				
Employee Outside Member of Board	0.153 0.095	0.274** 0.002	0.059 0.522	1			
Employees on Mgt. Comm.	0.139 0.131	0.082 0.372	0.079 0.390	-0.192* 0.036	1		
Size	0.183* 0.049	0.106 0.253	-0.087 0.353	0.120 0.199	0.073 0.431	1	
CSP	-0.015 0.871	0.027 0.768	0.048 0.603	-0.137 0.135	-0.087 0.348	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

A variance inflation factor (VIF) was calculated to check for multicollinearity. The design elements have VIFs not greater than 1.204.

From the table, only two inter-item correlation are seen, and only one design element correlated with size. The presence of employees on the management committee for ethics or social responsibility correlated with two design elements: those firms which included employees in strategic planning, and those firms which had an employee representative as an outside board member. However, there were only five firms in the latter category, so the small percentage of firms may be skewing the association measurement. Why the design features for the HRPI design dimension are not correlated well with each other may be due to several things: (1) the use of different, equifinal design features by various firms to capture the employee stakeholder group; (2) the implicit use of the formalized human resource functional area to raise employee concerns to management; or (3) the inadequacy of the questions to capture the design dimension.

As described in Chapter 3, each firm was rated from 1 to 5 on the HRPI design dimension. This rating was based on the presence of the five design elements mentioned above.

Table 4.13: HRPI Design Dimension Ratings

Rating	Number (Percent) of Firms
1	9 (7.5)
2	39 (32.5)
3	40 (33.3)
4	23 (19.2)
5	9 (7.5)
<i>Total</i>	<i>120 (100)</i>

Note: The median rating was 2.8667 with a standard deviation of 1.0527.

4.3.3 Control-Systems Design Dimension

This design dimension is measured by two items: the conduct of an ethics or social audit (referred to as Audit) and a plan for compensation, evaluation or incentives based on extra-economic goals (such as environmental performance or community relations) as well as economic goals (referred to as CEI Plan). Of the respondents, 60.8% (73 firms) reported regularly conducting an ethics or a social audit. A higher percentage, 77.5% (93 firms), reported having compensation, evaluation, and incentive plans for managers based upon extra-economic goals as well as economic goals. As shown in Table 4.14, 45.0% of the firms have both design elements present, 46.7% have either an audit or a CEI plan, and 8.3% have neither.

Table 4.14: Control Systems: Audits and Compensation, Evaluation, and Incentive Plans

Design Element	Number (Percent) of Firms
Audit	73 (60.8)
CEI Plan	93 (77.5)
Both Audit and CEI Plan	54 (45.0)
Neither Audit Nor CEI Plan	10 (8.3)
An Audit or a CEI Plan	56 (46.7)

Correlation of the Audit variable and CEI Plan variable indicate no inter-item correlation, which may indicate firms using a control system use one or the other, depending on their size and regulatory and institutional environment (such as financial institutions and the natural resources industry). Having a periodic social or ethics audit correlated to the size of the firm as shown in Table 4.15. Neither item is correlated to the overall corporate social performance measure (CSP).

Table 4.15: Control Systems Design Elements: Correlation Matrix With 2-tailed Significance

n=120	Audit	CEI Plan	Size	CSP
Audit	1			
CEI Plan	-0.024 0.799	1		
Size	0.292** 0.001	0.176 0.057	1	
CSP	-0.104 0.257	0.038 0.682	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

A variance inflation factor (VIF) was calculated to check for multicollinearity. The design elements have VIFs not greater than 1.139.

As described in Chapter 3, the firms were rated on the control-systems design dimension, and the distribution is shown below in Table 4.16. Approximately eight percent of the firms were rated the lowest with a “1” because they did not have either an audit or a CEI Plan. However, 46.7% of the firms had either design element for a moderate rating of “3”, and 45.0% had both design elements for a high rating of “5.”

Table 4.16: Control-Systems Design Dimension Ratings

Rating	Number (Percent) of Firms
1	10 (8.3)
3	54 (45)
5	56 (46.7)
<i>Total</i>	<i>120</i>

Note: The median rating was 3.7333 with a standard deviation of 1.2684.

4.3.4 Strategic Planning

Respondents were asked how six constituencies [stakeholder groups] were included in the strategic planning process. Their responses are summarized below in Table 4.17. The most-represented group in the strategic planning process was the customers at 40%. Employees and the environment were both included in strategic planning in 36.7% of the firms.²³ Suppliers and the Community were involved in the strategic planning process in 29.2% and 21.7% of the firms, respectively. Of all the constituencies, the government was integrated into strategic planning process the least, only in 15.8% of the firms, and mostly in utilities industry and primarily for the impact of current or pending regulations.

While the natural environment is a difficult stakeholder to include in strategic planning process as another voice or vote, the environment was explicitly taken into account in 36.7% of the firms for the strategic planning process, primarily in the two industries of natural resources and drugs and medical services [these industries may exhibit more regulation and public encroachment than other industries]. The implementation of this most likely is the inclusion of the senior environmental affairs executive in the planning committee. Few firms had a representative of an environmental group as an outside member of the board, and few, if any, companies would include such a representative in the strategic planning process.

²³ For the firm to be considered as including employees, they had to consult with employees before and/or during the process. For the environment to be considered as integrated into strategic planning, the firm had to at least mention explicitly and discuss the environment if not consult a representative of the environment (internal environmental representative or external member of an environmental interest group) before and/or during the process.

Table 4.17: Strategic Planning

Constituencies (Stakeholders)	Percentage of Firms That Consulted With Prior to and/or During the Strategic Planning Process
Customers	40.0
Suppliers	29.2
Employees	36.7
Community	21.7
Environment	36.7
Government	15.8

The individual variables were strongly correlated with each other to at least $p < 0.008$, and the individual variables, or design elements, were not correlated with the CSP score of the firm as shown in Table 4.18. Inclusion of the community and inclusion of government stakeholder groups were somewhat correlated with the size of the firm at 0.210^{**} (0.023) and 0.234^{*} (0.011), respectively. Factor analysis shows they load onto one factor, and a reliability analysis indicates strong inter-item correlation (See Appendix 3).

Of note, the inclusion of employees in the strategic planning process was strongly correlated with the presence of an employee or employee representative as an outside member of the Board of Directors ($0.274^{**}/0.002$). This is consistent with an organization design allowing for employee voice in decision making. The inclusion of a member of a public interest group in strategic planning was strongly correlated with the presence of an outside member of the community on the Board of Directors ($0.249^{**}/0.006$).

**Table 4.18: Strategic Planning:
Correlation Matrix With 2-tailed Significance**

n=120	Customer	Suppliers	Employees	Community	Environment	Government	Size	CSP
Customers	1							
Suppliers	0.561*** 0.000	1						
Employees	0.473*** 0.000	0.463*** 0.000	1					
Community	0.355*** 0.000	0.419*** 0.000	0.439*** 0.000	1				
Environment	0.332*** 0.000	0.311** 0.001	0.246** 0.007	0.313*** 0.000	1			
Government	0.438*** 0.000	0.375*** 0.000	0.286** 0.002	0.603*** 0.000	0.333*** 0.000	1		
Size	0.122 0.190	0.166 0.074	0.106 0.253	0.210* 0.023	0.090 0.334	0.234* 0.011	1	
CSP	0.003 0.976	0.003 0.973	0.027 0.768	0.000 0.998	0.027 0.768	-0.016 0.863	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

A variance inflation factor (VIF) was calculated to check for multicollinearity. The design elements have VIFs not greater than 1.809.

The ratings for the strategic-planning design dimension were based on the inclusion of stakeholders in the strategic planning process and the presence of outside members of the board from various constituencies. Each stakeholder group included or represented was weighted equally and added together for a score. The scores ranged from 0 to 11. This score was then standardized to a rating between 1.00 and 5.00, and the distribution is provided in Table 4.19.

Table 4.19: Strategic-Planning Design Dimension Ratings

Rating	Number (Percent) of Firms
rating \leq 1	27
1 < rating \leq 2	42
2 < rating \leq 3	36
3 < rating \leq 4	13
4 < rating \leq 5	2
<i>Total</i>	<i>120</i>

Note: The median rating was 1.9506 with a standard deviation of 0.8811.

4.3.5 Organizational Ethos

An analysis of the corporate mission statement, vision statement or code of ethics was conducted to determine the inclusion of stakeholders and the attitudes towards stakeholders. For the purposes of this study and the ease of reporting and presentation, the term corporate credo is used to represent mission statements, corporate principle, vision statements, codes of ethics, etc.

The number of firms that were rated in each category of the organizational ethos dimension is provided in Table 4.20. Only five firms addressed the avoidance of harm to at least two stakeholders by the organization. Many firms, particularly those in the

natural resources and utilities industries, had adopted a set of principles to protect the environment and to minimize the impact of the organization on the natural environment, and these firms were rated a “4.” The other industry category highly represented in the ratings of “4” and “5” was the drugs and medical services industry, which expounded a concern for the protection of the consumer and society from harm by the organization’s products.

One explanation for the high representation of the three industries (natural resources, utilities, and drugs and medical services) may be due to a higher degree of regulation than is found with the other industries. In the first two industries, the concern for the environment through social and governmental pressure has been articulated more than other stakeholder concerns. For example, Responsible Care® is a formalized set of principles that has been accepted by several firms to protect the environment and improve sustainable development. In the drugs and medical services industry, the concern of product safety has driven intense regulation. The Tylenol® crisis (see Nash, 1988) highlighted Johnson & Johnson’s corporate credo that calls for protection of the consumer above all else. From an institutional theory perspective, these firms may have adopted such principles or credos because of external pressures, either mimetic or coercive from the regulatory agencies and the general public, or internal mimetic pressures to adhere to the principles or have certain design features.

Only five firms extended the implicit moral foundation of Responsible Care® to other stakeholder groups.

Table 4.20: Organizational-Ethos Design Dimension Rating

Rating	Number (Percent) of Firms
1	47 (38.3)
2	25 (20.8)
3	22 (18.3)
4	21 (17.5)
5	5 (4.2)
<i>Total</i>	<i>120 (100)</i>

Note: The median rating was 2.297 with a standard deviation of 1.229.

The mean and standard deviation for the organizational ethos ratings in each industry are listed in Table 4.21. The industries are listed from lowest to highest mean organizational ethos rating, with computers and technology industry having the lowest mean rating, 1.1250, and the drugs and medical services industry having the highest mean rating, 4.0000. This may be due to the increased attention (via regulation and public attention on product safety) on the drugs and medical services industry, and, therefore, those firms are more likely to express values that express concern for consumers and the health and well-being of the general public. To determine if the organizational ethos rating was associated with the industry, a one-way ANOVA was conducted among the ten industry groups. A significant ($p < 0.001$) difference among the ratings of each industry group was found.

Table 4.21: Organizational Ethos and Industry: Comparison of Means

Industry (n)	Mean	Standard Deviation	Minimum	Maximum
Computers and Technology (8)	1.1250	0.3536	1	2
Financial Services (16)	1.6250	0.8062	1	4
Utilities (13)	1.8462	1.0682	1	4
Consumer (18)	1.8889	1.0226	1	4
Business and Professional Services (6)	2.0000	1.2649	1	4
Printing, Publishing, and Telecommunications (10)	2.1000	1.1972	1	4
Transportation (4)	2.5000	1.0000	1	3
Industrial, Construction, and Housing (15)	2.5000	1.2247	1	4
Natural Resources (25)	3.2000	1.2583	1	5
Drugs and Medical Services (5)	4.0000	1.0000	3	5
<i>All Industries (120)</i>	<i>2.277</i>	<i>1.262</i>	<i>1</i>	<i>5</i>

4.3.6 Correlation and Variation of the Design Dimensions

The five design dimensions were analyzed for possible correlation among the design dimensions and with size of firm and CSP score. The results are shown in Table 4.22 below, and they indicate four design dimensions are strongly correlated with each other: structural configuration, HRPI, control systems, and strategic planning. The supports the equifinality argument -- the concepts of justice (the design dimensions) are inter-correlated, but the conceptions (the design features) are not. As discussed in Section 2.6, conceptions are particular, possibly equifinal, vehicles for enacting concepts.

The organizational-ethos design dimension is not correlated with any of the other design dimensions; however, this may be because the four design dimension measurements are bureaucratic or mechanistic in purport, whereas the organizational-

ethos design dimension is a non-bureaucratic, clan-control or organic tool.

When analyzed with the size of the firm, three design dimensions were correlated with size: (1) structural configuration at 0.316**/0.001; (2) control systems at 0.353***/0.000; and, (3) strategic planning at 0.218*/0.018 as would be predicted by contingency theory (Hall, Haas, and Johnson, 1967; Lawrence and Lorsch, 1967; Galbraith, 1973, 1977; Blau, et al., 1976). The fourth design dimension, HRPI, was slightly correlated with size, but not at a significant level (0.145/0.120). No design dimensions were correlated with the overall CSP score.

To test the design dimensions for adequate variation to test the deviation distance-performance relationship, a median split was performed on the each set of ratings for the five design dimensions. The resultant means were compared using *t*-tests, and the means for the split-samples for each design dimension were significantly different at the $p < 0.001$ level.

Table 4.22: Design Dimensions: Correlation Matrix With 2-tailed Significance

n=120	Structure	HRPI	Control Systems	Strategic Planning	Ethos	Size	CSP
Structure	1						
HRPI	0.248** 0.006	1					
Control Systems	0.263** 0.004	0.300** 0.001	1				
Strategic Planning	0.279** 0.002	0.423*** 0.000	0.257** 0.005	1			
Ethos	0.138 0.135	0.026 0.780	0.149 0.106	0.107 0.246	1		
Size	0.316** 0.001	0.145 0.120	0.353** 0.000	0.218* 0.018	-0.002 0.985	1	
CSP	-0.036 0.698	-0.030 0.749	-0.049 0.595	0.052 0.575	0.155 0.092	-0.257** 0.005	1

* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$

4.4 Dependent Variables

When compared to the entire KLD database, the group of respondents was approximately the same in CSP scores (see Table 4.23). The mean score for all the firms in the KLD database is 21.580, and that of the respondent population is 21.617. As shown in Table 4.23, there were no significant differences between the respondent population and the non-respondents.

Table 4.23: CSP Scores Comparison

	Entire KLD Database	Firms That Responded	Two-Sample <i>t</i>-test for significant difference in means
TOTAL SCORE			
Mean score	21.580	21.617	
Standard deviation	3.185	2.467	Not Significant
COMMUNITY			
Mean	3.349	3.417	
Standard deviation	0.675	0.717	Not Significant
DIVERSITY			
Mean	3.408	3.467	
Standard deviation	0.970	0.995	Not Significant
EMPLOYEES			
Mean	3.236	3.375	
Standard deviation	0.836	0.870	Not Significant
ENVIRONMENT			
Mean	2.985	2.858	
Standard deviation	0.785	0.823	Not Significant
PRODUCT			
Mean	3.021	2.908	
Standard deviation	1.243	0.756	Not Significant
NON U.S. OPERATIONS			
Mean	2.889	2.950	
Standard deviation	0.721	0.314	Not Significant
OTHER			
Mean	2.616	2.642	
Standard deviation	0.680	0.719	Not Significant

4.5 Deviation Distance Calculated From Design Dimensions

A deviation distance was calculated for each firm as a Euclidean distance from the ideal-type profile along five dimensions, referred to as DISTANCE in this section. These distances were then compared to each firm's respective CSP scores as calculated from the KLD database. As mentioned in Chapter 3, the overall CSP score was calculated by summing the individual scores for seven of the KLD subdimensions. In other words, KLD rated each firm on seven areas (community, diversity, employees, environment, product, non-U.S. operations, and other). These individual ratings were added together with equal weighting for an overall CSP score.

Deviation distance did not correlate with the total CSP score as shown in Table 4.24. The Pearson correlation coefficient was -0.021 with a two-tailed significance level of 0.819. A regression analysis of CSP, SIZE, and DISTANCE was calculated, and the adjusted R^2 was 0.063 with the F of the ANOVA at 4.920 with a significance of 0.009. However, size accounted for most of the variability in the adjusted R^2 as the coefficient for size was significant (0.002), but the one for DISTANCE was not (0.200). This indicates that deviation distance is not correlated with performance for all the industries as a whole. Subsequent analyses were done by industry to control for the effects of industry.

Table 4.24: Regression Analysis

$$\text{CSP} = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{DISTANCE} \quad R^2 = 0.063, F = 4.920 (0.009)$$

$$\beta_1 = -0.296, \text{ significant at } 0.002; \beta_2 = -0.122, \text{ significant at } 0.200$$

$$\text{CSP2} = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{DISTANCE2} \quad R^2 = 0.103, F = 7.675 (0.001)$$

$$\beta_1 = -0.329, \text{ significant at } 0.001; \beta_2 = 0.036, \text{ significant at } 0.705$$

Accounting for different organizational environments, industry category was taken into account in the next analyses. Correlation and regression analyses were conducted within each industry category for DISTANCE and CSP. The correlation results indicated no association at the 0.05 significance level or better. The regression analyses indicated that the size accounted for some variation in the CSP score, but the coefficients for the DISTANCE variable were not significant.

A modification to the calculation of DISTANCE was made to examine the influence of the organizational-ethos design dimension. As shown in Table 4.22, the organizational-ethos design dimension was not correlated with the other design dimensions, which were strongly correlated with each other. A new deviation distance was calculated using the four design dimensions of structural configuration, HRPI, control systems, and strategic planning. This new deviation distance based on the design dimensions is termed DISTANCE2.

In addition, a modification was made to the CSP score calculation. The CSP score was originally calculated on the seven KLD subdimensions; however, a different

calculation of the CSP score with only five of the KLD subdimensions was more correlated with the distance measure. This second CSP score is based on the equal-weighting aggregate of the Community, the Employees, the Environment, the Product, and the Other subdimensions and is termed CSP2.²⁴

The revised deviation distance and CSP measures were not correlated with each other; however, the significance level was higher [DISTANCE2 and CSP2: 0.157/0.088, compared to DISTANCE and CSP: -0.021/0.819]. The regression analysis is shown in Table 4.24 and indicates no significant relationship with the modified distance measurement and CSP score. The adjusted R^2 is 0.111, with an F for the ANOVA at 7.675 with a significance of 0.239. The size coefficient is -0.329 with a significance of 0.001, and distance coefficient is 0.036 with a significance of 0.705 as presented in Table 4.24.

Taking industry into account, the design-performance relationship was further studied. In general, there were very few firms in each industry category. There were no correlation between DISTANCE2 and CSP2, except in the transportation industry (0.967*/0.033) which had only 4 firms in the respondent population. When regression analyses were performed by industry, including size as a variable, no significant relationship between DISTANCE2 and CSP2 was found. In other words, DISTANCE2 (or organization design) did not account for a significant portion of the variation in CSP2 (the social performance measurement).

²⁴ The Other subdimension of the KLD database contains criteria primarily on corporate compensation and ownership of other firms in the database. The two dropped out were Diversity and Non-US Operations. [These probably should have been dropped out to begin with, since they are not necessarily related to one stakeholder group.] See Appendix 5 for additional information on the criteria used in the KLD database.

4.6 Comparing Individual “Stakeholder” Design Elements to Stakeholder-Specific CSP Dimensions

This section describes additional analyses I conducted. I selected the survey questions and related design elements that were specific for the inclusion or treatment of a specific stakeholder. I then compared the average score of these elements to the stakeholder-specific KLD subdimension. For example, I compared the design elements that specifically addressed the natural environment and compared them to the KLD rating along its Environment dimension. The analysis was conducted on all of the industries combined. The following sections address the analysis of these specific items for the following five KLD dimensions: Community, Diversity, Employees, Environment, and Product.

For each subsection, the individual design elements related to the stakeholder group are listed. Any individual correlation of these design elements and the individual KLD dimension is reported. These design elements are then aggregated to one ‘stakeholder rating’ and compared to the individual KLD dimension score. Another correlation analysis (or comparison) is done to determine if any of the design elements is associated with any of the five design dimensions used to calculate the distance of the firm from the ideal-type profile.

4.6.1 Community

The design elements regarding the community and the public interest were analyzed for possible associations with the KLD Community dimension. These six design elements

were a board committee for (1) community issues and for (2) public interest, an outside member of the board for (3) community issues and (4) public interest, (5) the presence of community members on the management committee for ethics or social responsibility, and (6) the inclusion of community representatives in strategic planning. The presence of an outside board member from a public-interest group was correlated with the KLD Community dimension at a level of 0.188 ($p = 0.039$).

When the community components are aggregated into a single score and correlated with performance as measured by the KLD Community dimension, there was no significant correlation. An inter-item reliability analysis of the factors yielded individual alphas for each item from 0.4600 to 0.5626, with an overall standardized item alpha of 0.5624.²⁵ When the performance measure was regressed on size and the total of community components, the adjusted R^2 was -0.004, $F = 0.756$ (sig. 0.472). Presented in Table 4.25, the regression analysis yielded a coefficient for the SIZE variable of 0.035 with a significance of 0.712. The coefficient for the design measure was 0.104 with a significance of 0.272. As shown in Table 4.25, no significant relationship was noted for the whole of the respondent population.

When a regression analysis was conducted for each industry category (controlling for the effects of industry), only the natural resources industry showed a potential relationship between organization design specifically for the community as a stakeholder and the social performance rating on the firm-community stakeholder relationship (See Table 4.25). When the performance measure was regressed on size and the total of

²⁵ Assuming the items are supposed to be related, this is a poor, or weak, value for the standardized item alpha.

community components, the adjusted R^2 was 0.202, $F = 4.031$ (sig. 0.032). The regression analysis yielded a coefficient for the SIZE variable of 0.292 with a significance of 0.125. The coefficient for the design measure was 0.397 with a significance of 0.042.

Table 4.25: Regression Analysis for KLD Community Dimension	
<u>ALL INDUSTRIES (n=120)</u>	
KLD COMMUNITY = $\beta_0 + \beta_1$ SIZE + β_2 COMMUNITY DESIGN	
adjusted $R^2 = -0.004$, $F = 0.756$ (0.472)	
$\beta_1 = 0.035$, significance at 0.712; $\beta_2 = 0.104$, significance at 0.272	
Not Significant	
<u>NATURAL RESOURCES INDUSTRY (n=25)</u>	
KLD COMMUNITY = $\beta_0 + \beta_1$ SIZE + β_2 COMMUNITY DESIGN	
adjusted $R^2 = 0.202$, $F = 4.031$ (0.032)	
$\beta_1 = 0.292$, significance at 0.125; $\beta_2 = 0.397$, significance at 0.042	
Significant	

With the components of an ethics/social audit and CEI plans that incorporate extra-economic objectives, the control systems rating was correlated with the KLD Community dimension at 0.164 ($p = 0.099$). These design features do not necessarily include the community specifically. Therefore, these design features were not included in the community components analyzed here. Future research may isolate those components of control systems specifically related to the firm-community relationship. In addition, the organizational ethos rating was correlated with the KLD Community Dimension at a

level of 0.203 ($p = 0.026$). The rating was not included with the six community components, although subsequent analyses can isolate those firms with a credo or code of ethics that include the community as a stakeholder and mention avoidance of harm to the community by the organization.

4.6.2 Diversity

The design elements commensurate with diversity are the presence of a committee for minority issues or women's issues and the presence of an outside member of the board for minority issues or women's issues. Only two of these four elements was correlated with the KLD Diversity dimension rating: a committee or appointment for minority issues at 0.191 ($p = 0.037$) and an outside member of the board for minority issues at 0.239 ($p = 0.009$).

When the diversity components are aggregated into a single score and correlated with performance as measured by the KLD Diversity dimension, there is a positive correlation of 0.227 at a significance of 0.013. An inter-item reliability analysis of the four components yielded individual alphas for each item from 0.3170 to 0.7291, with an alpha of 0.6786. When the performance measure was regressed on size and the total of diversity components (see Table 4.26), the adjusted R^2 was 0.048, $F=3.909$ (sig. 0.023) and the coefficient for the design measure was 0.203 ($p = 0.029$). When the regression analysis was conducted for each industry category, three industries yielded large R^2 s; however, only the consumer industry showed a significant, positive relationship with the coefficient for the design measure at 0.513 ($p = 0.044$), as shown in Table 4.26.

Table 4.26: Regression Analysis for KLD Diversity Dimension

ALL INDUSTRIES (n=120)

$$\text{KLD DIVERSITY} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ DIVERSITY DESIGN}$$

$$\text{adjusted } R^2 = 0.048, F = 3.909 (0.023)$$

$$\beta_1 = 0.120, \text{ significance at } 0.195; \beta_2 = 0.203, \text{ significance at } 0.029$$

Significant

CONSUMER INDUSTRY (n=18)

$$\text{KLD DIVERSITY} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ DIVERSITY DESIGN}$$

$$\text{adjusted } R^2 = 0.154, F = 2.458 (0.122)$$

$$\beta_1 = -0.092, \text{ significance at } 0.698; \beta_2 = 0.513, \text{ significance at } 0.044$$

Significant

NATURAL RESOURCES INDUSTRY (n=25)

$$\text{KLD DIVERSITY} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ DIVERSITY DESIGN}$$

$$\text{adjusted } R^2 = 0.202, F = 4.038 (0.032)$$

$$\beta_1 = 0.484 \text{ significance at } 0.015; \beta_2 = -0.244, \text{ significance at } 0.197$$

Not Significant

UTILITIES INDUSTRY (n=13)

$$\text{KLD DIVERSITY} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ DIVERSITY DESIGN}$$

$$\text{adjusted } R^2 = 0.459, F = 5.660 (0.026)$$

$$\beta_1 = 0.419, \text{ significance at } 0.103; \beta_2 = 0.513, \text{ significance at } 0.053$$

Somewhat Significant

The organizational ethos rating was correlated with the KLD Diversity dimension at a level of 0.181 ($p = 0.048$). However, for the same reasons the organizational ethos

rating was not included in the community-specific analysis, it was not included in this one. Besides the organizational-ethos design dimension, only two others were correlated with the KLD Diversity dimension: (1) the strategic-planning design dimension at 0.214 ($p = 0.019$) and (2) structural-configuration design dimension at 0.281 ($p = 0.002$).

4.6.3 Employees

The design elements associated with employee issues, representation, and voice were analyzed for association with the individual KLD Employee dimension. These six design elements, or items, are an employee as an outside member of the board, a committee on the board for employee issues, the presence of employees on the management committee for ethics or social responsibility, an open-door policy, an ethics hotline, and the inclusion of employees in the strategic planning process. The presence of an employee as an outside member of the board was correlated with the KLD Employee dimension at 0.247 ($p = 0.007$). In addition, the inclusion of employees in the strategic planning process was correlated with the KLD Employees dimension at a level of 0.190 ($p = 0.038$)

When the employee components are aggregated into a single score and correlated with performance as measured by the KLD Employees dimension, there is a positive correlation of 0.213 at a significance of 0.019. The performance measure was regressed on size and the total of employee components, and the results are provided in Table 4.27. The adjusted R^2 was 0.029, $F=2.749$ (sig. 0.068). The coefficient of the design measure was 0.214 with a significance of 0.025. The coefficient is significant, but it does not

account for very much of the variation in the KLD Employees dimension scores. Similar analyses were conducted for each industry category, with the significant results also included in Table 4.27. For the financial services industry, the adjusted R^2 was 0.176, $F=2.597$ (sig. 0.112). The coefficient of the design measure was 0.257 with a significance of 0.056. For the industrial, construction, and housing industry category, the adjusted R^2 was 0.353, $F=4.811$ (sig. 0.029). The coefficient of the design measure was 0.666 with a significance of 0.011. As with the analyses for the individual industry categories to this point, subsequent analyses with a larger population and a broader range of stakeholder-specific design features may yield more significant results.

Table 4.27: Regression Analysis for KLD Employees DimensionALL INDUSTRIES (n=120)

$$\text{KLD EMPLOYEES} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ EMPLOYEES DESIGN}$$

$$\text{adjusted } R^2 = 0.029, F = 2.749 (0.068)$$

$$\beta_1 = 0.002, \text{ significance at } 0.983; \beta_2 = 0.214, \text{ significance at } 0.025$$

SignificantFINANCIAL SERVICES INDUSTRY (n=16)

$$\text{KLD EMPLOYEES} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ EMPLOYEES DESIGN}$$

$$\text{adjusted } R^2 = 0.176, F = 2.597 (0.112)$$

$$\beta_1 = 0.212, \text{ significance at } 0.383; \beta_2 = -0.492, \text{ significance at } 0.056$$

Somewhat SignificantINDUSTRIAL, CONSTRUCTION, AND HOUSING INDUSTRY (n=15)

$$\text{KLD EMPLOYEES} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ EMPLOYEES DESIGN}$$

$$\text{ADJUSTED } R^2 = 0.353, F = 4.811 (0.029)$$

$$\beta_1 = -0.310 \text{ significance at } 0.185; \beta_2 = 0.666, \text{ significance at } 0.011$$

Significant

Only two of the five design dimensions were correlated with the KLD Employees dimension. The strategic planning rating was correlated with the KLD Employees dimension rating at 0.190 ($p = 0.038$). The HRPI rating was correlated with the KLD Employees dimension rating at 0.248 ($p = 0.006$).

4.6.4 Environment

There were design elements associated with the firm-environment stakeholder relationship identified: a board committee for environmental issues, an outside member

of the board from an environmental interest group, and the inclusion of the natural environment's interests in the strategic planning process (through a representative such as the firm's Vice President of the Environment). Firms that scored low on the KLD Environment dimension were more likely to indicate that the environment was explicitly taken into account in the firm's strategic planning process as shown by the negative correlation of -0.185 ($p = 0.043$). This may be explained by the greater awareness of the environment-as-a-stakeholder by firms which have had negative publicity on environmental problems. Negative publicity including litigation would lead to lower CSP scores and possibly a reactive response by the firm to consider environmental implications more fully in strategic planning.

When the environment components are aggregated into a single score and correlated with performance as measured by the KLD Environment dimension, there is a negative correlation of -0.243 at a significance of 0.008. When the performance measure was regressed on size and the total of employee components, the adjusted R^2 was 0.093 with $F=6.978$ (sig. 001) as shown in Table 4.28. The coefficient of size was -0.236 with a significance of 0.013, and the coefficient of the design measure was -0.168 with a significance of 0.074. This indicates that the larger firms had a smaller, or worse, CSP score as did the firms with several environment-as-a-stakeholder specific design features. However, when the analysis was conducted for each industry category, no significant relationships were seen. This may be hampered by the small number of firms in each industry category (4 to 25). No design dimensions were correlated with the KLD Environment dimension rating.

Table 4.28: Regression Analysis for KLD Environment Dimension

ALL INDUSTRIES (n=120)

$$\text{KLD ENVIRONMENT} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ ENVIRONMENT DESIGN}$$

adjusted $R^2 = 0.093$, $F = 6.978$ (0.001)

$\beta_1 = -0.236$, significance at 0.013; $\beta_2 = -0.168$, significance at 0.074

Somewhat Significant

4.6.5 Product

The design elements regarding consumer were chosen based on their relation to either consumers, product issues, suppliers, or the government. These seven items were:

- Board Comm. For Product
- Board Comm. For Supplier
- Outside Member (Trade Group)
- Outside Member (Consumer)
- Customers Included in Strategic Planning
- Suppliers Included in Strategic Planning
- Government Included in Strategic Planning

Only one design feature, the presence of an outside member of the board from a trade association or group, was correlated with the KLD Product dimension, and that was a negative correlation at -0.189 ($p = 0.038$).

When the product components are aggregated into a single score and correlated

with performance as measured by the KLD Product dimension, there is a negative correlation of -0.164 at a significance of 0.073. An inter-item reliability analysis yielded alphas for each item ranging from 0.5544 to 0.6398 with a standardized item alpha of 0.6387. When the performance measure was regressed on size and the total of product components, the adjusted R^2 was 0.154 as shown in Table 4.29. Size accounted for the variation noted, as the coefficient for size was -0.393 with a significance of <0.001. The coefficient for the design measure was not significant ($p = 0.490$) at -0.061. When the industry was taken into account, no significant association was seen for the design features and performance of the product/consumer stakeholder relationship.

Table 4.29: Regression Analysis for KLD Product Dimension

ALL INDUSTRIES (n=120)

$$\text{KLD PRODUCT} = \beta_0 + \beta_1 \text{ SIZE} + \beta_2 \text{ PRODUCT DESIGN}$$

$$\text{adjusted } R^2 = 0.154, F = 11.586 (<0.001)$$

$$\beta_1 = -0.393, \text{ significance at } <0.001; \beta_2 = -0.061, \text{ significance at } 0.490$$

Not Significant

4.7 Difference in Design Elements and Design Dimensions for High Performers Versus Low Performers

To analyze if level of CSP score was associated with a possible design-performance relationship, the firms were divided into three groups based on the total CSP score: high, moderate, and low CSP performers. High performers were defined by those scoring at least one-half a standard deviation above the mean for performance for all the firms. The

means of those firms which scored a 23 or higher were considered high performers (>22.8). Low performers were the firms which scored less than one-half a standard deviation below the mean of the performance for all the firms (20.3). Moderate performers were those which had a total CSP score of 21 or 22. So, there were 37 high performers (CSP score from 23 to 29), 31 moderate performers, and 34 low performers (CSP score 16 to 20). The group of high performers was then compared to the group of low performers. A comparison of the means of the high-performer group and those of the low-performer group were examined using a one-way ANOVA. Of course, the individual KLD scores for each dimension were significantly different; however, only two design elements varied: (1) a board committee or representative for public interests, and (2) an outside board member representing a public-interest group.

Table 4.30: Comparison of Means Between High and Low CSP Performers

Only those significant ($p < 0.05$) by a one-way ANOVA are given.

Item or Design Dimension	F-value	significance
Board Comm. for Public Interest	4.279	0.042
Outside Member of Board for Public Interest)	6.395	0.014
KLD Score - Community	14.714	<0.001
KLD Score - Diversity	37.655	<0.001
KLD Score - Employees	18.867	<0.001
KLD Score - Environment	32.756	<0.001
KLD Score - Product	35.422	<0.001
KLD Score - Other	18.686	<0.001
Total CSP Score - CSP	286.639	<0.001

4.8 Cluster Analyses

4.8.1 Cluster Analysis by Firm

A hierarchical cluster analysis on the 120 firms was conducted *a posteriori*. The results indicated that 112 firms were located in three distinct clusters, while the other eight firms were located outside these clusters and separate from each other. These three clusters were based on distance of the firms from each other, or proximity to each other. The resultant clusters were characterized by their mean scores on each of the organization design variables (or design features). The three clusters did not show significant differences in industry category or in size. In general, these three clusters varied only in deviation distance from the ideal-type profile; however, the CSP scores were not significantly different among the clusters. Therefore, the three clusters did not yield equifinal profiles consistent with the hypothesized design-performance relationship.

The means for the independent and dependent variables of each cluster are provided in Table 4.31. A one-way ANOVA showed significant differences among the clusters for many of the design features, significantly different mean deviation distances for the clusters, but not significantly different CSP scores, as shown in Table 4.31. This analysis indicates that there are clusters of firms around design dimension ratings; however, there is no relationship or correlation of the deviation distance from the ideal-type and the performance measures.

Table 4.31: Cluster Analysis by Firms

Variable Mean (Standard Deviation)	Cluster 1	Cluster 2	Cluster 3	ANOVA Level of Significance
Deviation Distance	5.830 (0.864)	7.685 (0.735)	9.437 (1.172)	<0.001 (Significant)
CSP Score	21.500 (3.113)	21.372 (2.278)	21.681 (2.295)	0.465 (Not Significant)
Size or Number of Employees	29,308 (27,958)	31,906 (45,052)	18,736 (19,449)	0.001 (Significant)
Specific Design Features				
Credo Rating	3.091 (1.151)	1.767 (0.812)	2.383 (1.423)	0.002 (Significant)
Management Committee Rating	2.818 (1.259)	1.581 (0.794)	1.170 (0.433)	<0.001 (Significant)
Audit†	1.864 (0.351)	1.674 (0.474)	1.404 (0.496)	0.001 (Significant)
Hotline†	1.818 (0.395)	1.698 (0.465)	1.489 (0.505)	0.015 (Significant)
Management Dept. for Ethics and/or Social Responsibility†	1.909 (0.294)	1.767 (0.428)	1.447 (0.502)	<0.001 (Significant)
Officer for Ethics and/or Social Responsibility†	1.954 (0.213)	1.721 (0.454)	1.511 (0.505)	0.001 (Significant)

† = The mean is 1 + the percentage of firms with that design feature. For example, 1.864 as a mean audit score for Cluster 1 indicates that approximately 86% of the firms in Cluster 1 have an audit.

4.8.2 Cluster Analysis by Variable

A hierarchical cluster analysis of the design features yielded five distinct clusters. These clusters represent design dimensions similar to the ones developed *a priori*. The design dimensions and selected design features that load onto each component, or dimension, are shown in Table 4.32. There are two notable differences between the *a priori* and *a*

posteriori groupings of the design features. First, the design features of the control systems and HRPI design dimensions are grouped differently by the cluster analysis. The control-systems design dimension consists of the audit and the management structures and processes previously included with the structural-configuration design dimension. The CEI plans and open-door policy are grouped together in the HRPI design dimension. The second difference is that the communication of the corporate credo or code is accomplished by formal and informal mechanisms. The informal mechanisms is a distinct cluster or component referred to here as culture. The results from the hierarchical cluster analysis of the variables is given in Table 4.32.

Table 4.32: Cluster Analysis by Variable

DESIGN DIMENSION	COMPONENT	DESIGN FEATURES
Structural Configuration	Internal Board Structure	Committees or appointed board members for consideration of these stakeholder areas: --customers --suppliers --employees --community --environment --government Board scanning position
HRPI	Open-door policy	Open-door policy CEI plans
Control Systems	Management Structure and Processes	Management committee Hotline Audit Officer for ethics and/or social responsibility Department for ethics and/or social responsibility Management scanning position
Strategic Planning	Strategic Planning	Inclusion of these stakeholders in the strategic planning process or representatives of these stakeholders on the Board of Directors: --customers --suppliers --employees --community --environment --government Inclusion of employees or outside members on the management committee for ethics and/or social responsibility
Organizational Ethos	Credo or Code	Credo or Code
	Formal Communication	Communication of credo or code by formal mechanisms such as general firm publications, specialized publications, CEO statements, or training programs
	Informal Communication	Communication of credo or code by informal mechanisms such as corporate heroes, examples, word-of-mouth, or Intranet

These dimensions are not all correlated with each other as those developed *a priori* were. Three of the dimensions are correlated positively with size: structural configuration (internal board structure) at 0.279 ($p = 0.002$); strategic planning at 0.261 ($p = 0.005$); and control systems (management structure and processes) at 0.275 ($p = 0.003$). Although not correlated with the total CSP scores, some of these dimensions do correlate with the particular CSP subdimensions (See Table 4.33). A credo which emphasizes consideration of and/or protection of stakeholders is correlated positively with the KLD Community and Diversity CSP ratings or subdimensions. The structural configuration, or internal board structure, is correlated positively with the KLD Diversity and Product CSP ratings or subdimensions. Regression analyses of these dimensions and the particular KLD subdimensions is shown in Table 4.34.

Table 4.33: Correlation Matrix for Design Dimensions *A Posteriori* and KLD Subdimensions With 2-tailed Significance
(only those significant at $p < 0.05$ shown in table)

	Community	Diversity	Product	Other
Credo	0.203* 0.026	0.181* 0.048		
Control Systems		0.234* 0.010		
Structural Configuration		0.265** 0.003	-0.284** 0.002	
Strategic Planning		0.218* 0.017	-0.224* 0.014	-0.222* 0.015

* means $p < 0.05$; **means $p < 0.01$

Table 4.34: Regression Analyses for *A Posteriori* Design Dimensions and KLD Subdimensions (n=120)

$$\text{KLD COMMUNITY} = \beta_0 + \beta_1 \text{CREDO}$$

$$\text{adjusted } R^2 = 0.033, F = 5.094 (0.026)$$

$$\beta_1 = 0.203, \text{significance at } 0.026$$

$$\text{KLD DIVERSITY} = \beta_0 + \beta_1 \text{CREDO} + \beta_2 \text{STRUCTURAL CONFIGURATION}$$

$$\text{adjusted } R^2 = 0.114, F = 4.814 (0.001)$$

$$\beta_1 = 0.157, \text{significance at } 0.075; \beta_2 = 0.211, \text{significance at } 0.020$$

$$\text{KLD PRODUCT} = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{STRUCTURAL CONFIGURATION}$$

$$\text{adjusted } R^2 = 0.189, F = 10.019 (<0.001)$$

$$\beta_1 = -0.335, \text{significance at } 0.028; \beta_2 = -0.198, \text{significance at } 0.028$$

4.9 Summary

The following list of important findings is summarized from the results detailed and discussed in this chapter.

- The response rate was acceptable, as 120 usable surveys were returned, for a 18.3% return rate. The response population was similar to the sample population in size, distribution of industry, and CSP scores.
- Of the five design dimensions, four were correlated with each other: structural configuration, human resources policies and incentives, control systems, and strategic planning. The organizational-ethos design dimension was not correlated

with the other design dimensions; however, this may be because it is a non-bureaucratic, clan-like control mechanism and the other four are bureaucratic control mechanisms. In addition, there was adequate variation in the design dimension ratings to test the deviation distance-performance relationship.

- Deviation distance (distance from the ideal-type profile) did not correlate with CSP, nor did a regression analysis indicate that there was a relationship between CSP and deviation distance. Thus, the original hypothesis was not supported. When the firms were separated by industry, there was still no correlation between deviation distance and CSP. While the sample size per industry category was small (≤ 25), regression analyses did not indicate that deviation distance accounted for variation in the CSP ratings.
- When individual ‘stakeholder-specific’ design features and ‘stakeholder-specific’ performance ratings were analyzed, some significant relationships were seen. Although the original hypotheses was not supported when the CSP ratings were aggregated into one overall CSP score, when the analysis was conducted at the stakeholder level (employees, community, environment), a significant relationship between deviation distance and performance was seen. Those firms which had design features addressing a particular stakeholder (consistent with the ideal-type profile of the just organization) had a better social performance rating or higher CSP score for that particular CSP dimension.
- *A posteriori* cluster analysis indicated that there was no significant clustering of firms based on industry or size. Compared to *a priori* grouping of the design features

to measure each design dimension, the *a posteriori* grouping was similar for the structural configuration, strategic planning, and organizational ethos design dimensions. The management structural features were taken out of the structural-configuration design dimension and, with the hotline design feature, used for the control-systems design dimension. The CEI plans design feature was used with the open-door policy design feature for the HRPI design dimension. Recalculation of the deviation distances from the ideal-type profile still did not indicate a correlation or association with CSP. However, at the ‘stakeholder-specific’ level of performance ratings (e.g., KLD subdimensions of Community and Diversity), a significant relationship between the presence of design features for specific stakeholders and the performance rating for that particular firm-stakeholder relationship was apparent.

- From these additional analyses, the appropriate level of analysis of the CSP data is at the stakeholder level, such as Community, Employees, and Environment. Aggregation of the CSP obscures the association with specific design features and performance.