

Corporate Social Responsibility and Values in Innovation Management

J. Maksimainen, P. Saariluoma, and P. Jokivuori

Abstract—Corporate social responsibility (CSR) viewpoint have challenged the traditional perception to understand corporations position. Production- and managerial-centred views are expanding towards reference group-centred policies. Consequently, the significance of new kind of knowledge has emerged. In addition to management of the organisation, the idea of CSR emphasises the importance to recognise the value-expectations of operational environment. It is know that management is often well-aware of corporate social responsibilities, but it is less clear how well these high level goals are understood in practical product design and development work. In this study, the apprehension above proved to be real to some degree. While management was very aware of CSR it was less familiar to designers. The outcome shows that it is essential to raise ethical values and issues higher in corporate communication, if it is wished that they materialize also in products.

Keywords—Corporate social responsibility, management, engineering, values.

I. INTRODUCTION

It is evident that we have to start looking human-technology interaction design from a much wider perspective than what is standard today. The question is not only of immediate ability to use technology, but very much about the position of new technology in human actions. Since values have an important role in directing human action it is natural to analyse also value issues. One of the most essential issues is corporate social responsibility, by which is meant how companies consider the interests of society by taking responsibility for the impact of their activities on different stakeholders from owners to employees and customers as well as the environment. Changing legislation but also corporate image issues have made these issues highly important for the corporations [1]-[4].

The importance of values and social responsibility has been understood today and the research on these issues has become on essential topic in academic research [5], [6]-[7]. However, corporate social responsibility has often been seen in a top-down manner. This means that owners, shareholders and CEO:s have been in focus when the corporate values are investigated. If people have been interested in employees' roles, they have been easily seen corporate social

responsibility as something that must be sold to them. This is paradoxical, because in many key tasks employees' are responsible that corporate social values become fleshed out.

This active role of employees is especially clear in new product development and design. They have to be active in defending corporate social values when concrete products and development decisions are carried out. The good purposes of owners and CEO's have very little effect unless designers are willing and knowing in the issues of corporate social responsibility. If they do not invent how to make those values real in products or service practices, nothing much happens. This is why it is vital to investigate how people different organizational positions understand the issues relevant in corporate social responsibility and values it represents.

II. SUBJECTS AND METHOD

A. Subjects

This article reports a study on the work-related values of engineers and administration personnel (N=118). The study was planned to facilitate the analysis of the work-related values in different engineering professions in Finland. The data was collected during fall 2008. Survey was executed as an internet survey and delivered to the target groups with help of Finnish Federation of Design- and Consulting Agencies, SKOL union, which is an organisation for employers and entrepreneurs of engineering, architecture, and design corporations. The target group of this study is Finnish engineering design personnel. Subjects were 118 engineers and administrative personnel from different professional fields (11 females, 107 males). Sample represents mostly the personnel of giant companies (86%, personnel more than 250).

B. Method

The research of Schwartz and Bilsky [6]-[7] is applied here to construct a rational basis for measuring values prevailing among the different groups of people. These features are also mentioned in previous literature [8]-[9]. The definition emphasizes the profound nature and the universal character of values. In the early stage of formulating their theory, Schwartz and Bilsky made a theoretical assumption based on literature, that values are cognitive representations of three types of human requirements. Firstly, values represents basic biological human needs, secondly the social interactional requirements, and the social and institutional demands of group welfare and survival [10]-[11]. These requirements are universal and pre-exist any individual. Schwartz's theory [6]-[7], [10]-[11] consists of 56 single values, mostly divided among 10 separate motivational types: universalism,

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benevolence, tradition, self-direction, stimulation, hedonism, achievement, power, conformity and security.

In addition to Schwartz's and Bilsky's definition values are understood in this article also as conceptions about central or desirable objectives of an individual, society or mankind [8]-[9], [12]-[13]. More specifically, in this article values means individuals position to a certain objects, which have been named in the survey.

The subjects filled the questionnaire which consists of two lists of values. Firstly, they were asked to consider what values they estimate to be important as guiding principles in corporate level. Then they were asked to fill second pattern of questions concerning what values were important to them as guiding principles in their own work. Both patterns of questions based on Schwartz's value questionnaire, which was modified and shortened in order to reconcile better to current purposes, i.e. measure work-related values in individual, and in corporate level. In addition to previous two patterns of questions, subjects also estimated their own professional skills in the survey. They were asked to estimate their own skills in relation to others according to the extension and depth of certain professional skills.

Confidentiality was stressed to the subjects, and they answered anonymously. Also the corporations subjects represents, stay anonymous.

There were altogether 29 questions about values in the questionnaire, 15 concerning organisational, and 14 concerning individual values. An indicator for measuring CSR was formulated by combining nine values among values listed in the questionnaires.

III. MEASURES AND RESULTS

A. Analysing CSR

The sum variable indicator of corporate social responsibility (CSR) was measured within nine statements (items) which range was from 1 to 9 (1=totally disagree thru 9=totally agree) indicating different aspects of CSR. The statements contain both company- and individual-level dimensions concerning corporate social responsibility. The statements were:

TABLE I
STATEMENTS OF CSR-INDICATOR (OBSERVED MINIMUM, OBSERVED MAXIMUM, MEAN AND STANDARD DEVIATION OF ITEMS)

Statement	Min	Max	Mean	SD
<i>Client-orientation is an important value in my company</i>	2	9	7.32	1.42
<i>Durability of customer relationship is an important value in my company</i>	3	9	7.54	1.33
<i>Usability of products is an important value in my company</i>	2	9	6.79	1.64
<i>Quality of products is an important value in my company</i>	1	9	7.08	1.78
<i>Awareness of environmental issues is an important value in my company</i>	2	9	6.10	1.71

<i>Corporate social responsibility is an important value in my company</i>	1	9	5.08	2.32
<i>Cooperation with stakeholders is an important value in my work</i>	2	9	7.35	1.37
<i>Working environment is an important value in my work</i>	1	9	6.42	1.92
<i>Trust is an important value in my work</i>	2	9	7.19	1.55

The durability of customer relations is at the high level; the mean of the item is 7.54 and the standard deviation is small (1.33). The greatest deviation can be seen within the item *Corporate social responsibility is an important value in my company*, where standard deviation is 2.32 and the mean value (5.08) is very close to the scale midpoint (5.00). The statement concerning cooperation with stakeholders receives also high mean value (7.35) with quite scant deviation (1.37).

The internal consistency reliability estimates were high: the Cronbach's alpha of the CSR scale was .89. The mean sum of the CSR indicator varies within 9-points scale from minimum (1) to maximum (9).

In Fig. 1, the histogram and normal curve are displayed showing quite high mean-value (6.76).

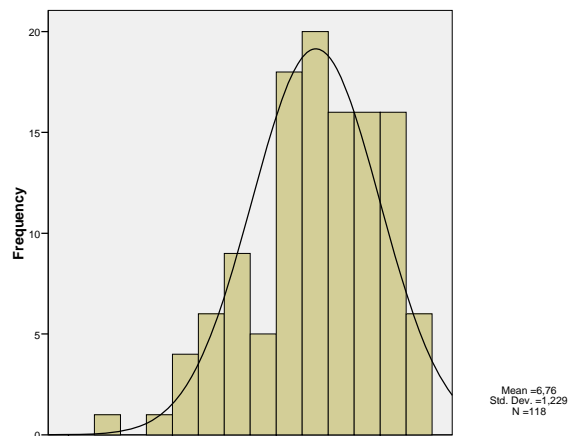


Fig. 1 The histogram and normal curve of CSR-indicator

The mean value is higher than scale midpoint (5.00), which is of course, not rare in work life surveys. Nevertheless, it suggests that corporate social responsibility is rather common and familiar phenomena amongst designers. Anyway, the figure also shows that the whole range of the CSR-indicator is in use. So, it is relevant to study how the CSR varies in the groups of different socio-demographic variables.

B. The Differences between Various Organizational Groups: Comparing Means

One-way analysis of variance (ANOVA) was used for comparing the means of the CSR indicator. In this analysis the factor's means were compared in order to find out whether

there were significant differences between the groups. The groups used in the comparison were formed by the following criteria: gender, age group, having or not having kids, vocational training level, the field of study, weekly working hours, and the size of enterprise. The significance level of 0.05 (at least) was used in this analysis. The general result is that significant differences were found in particular amongst age groups (the oldest age group is more CSR-orientated comparing to other age groups), the position in the organisation predicts the level of CSR significantly, and the factor having kids predict the orientation too. The highest mean values of CSR can be found among those who are 56-year or more (7.28), among CEOs (7.81), and those working in medium-size enterprises. Those who have no kids are more CSR-orientated than those having children. Instead, gender, the level of vocational training and field of study (technical/others), and weekly working hours are not producing any differences in CSR-orientation. Those who are working in medium-size enterprises are a bit more CSR-orientated comparing those working in large companies, but the difference is not statistically significant ($p=.078$).

Numbers of the groups, means and standard deviations, statistical significance and eta squared on the independent variables are shown in Table II.

TABLE II
CORPORATE SOCIAL RESPONSIBILITY BY SOCIO-DEMOGRAPHIC GROUPS

CSR-Indicator					
Variable Squared	n	Mean	SD	Sig.	Eta
Gender					
Women	11	6.31	1.41		
Men	107	6.81	1.21	.204	
.014					
Age					
Less than 35	33	6.49	1.06		
36-45	27	6.57	1.23		
46-55	35	6.83	1.39		
56 or more	23	7.28	1.09	.090	
.055					
Having kids					
No	55	7.05	1.06		
Yes	63	6.51	1.31	.018	
.048					
Vocational training					
Vocational school	9	6.10	1.60		
College level	51	6.79	1.28		
Polytechnic	21	6.86	0.87		
University	37	6.84	1.24	.410	
.025					
Field of study					
Technical	112	6.76	1.22		
Other	6	6.88	1.40	.798	
.001					
Position in the organisation					
CEO	10	7.81	0.85		
Middle management	26	7.16	1.05		
Engineers/designers	76	6.54	1.20		
Others	6	6.17	1.62	.002	
.120					
Weekly working hours					
40 or less	90	6.71	1.19		
41 or more	28	6.94	1.35	.373	
.007					
Size of the enterprise					
Medium size (< 250 employees)	16	7.26	1.42		

Large (> 250 employees)	102	6.68	1.19	.079
.026				
Total	118	6.76	1.23	

Eta squared tells how much one variable can explain the variance of CSR. Table I shows that the position in the organisation is the strongest predictor of corporate social responsibility. It explains 12% of the variance of CSR.

C. Correlations between CSR and variables concerning work community and personal skills

Correlations were calculated for CSR between variables concerning organisation-related and individual-related (like self-evaluation of personal skills) variables. Statistically significant (but rather low) correlations between the factors were found:

TABLE III
CORRELATIONS COEFFICIENTS BETWEEN CSR AND ORGANISATION-AND INDIVIDUAL-RELATED VARIABLES

Variable	CSR correlation coefficient
Ethical discussions are occur in my work community (never – often)	.297 **
Expert knowledge comparing to colleagues (weaker – better)	.228*
Duration of designer work experience	.216*

* = significance level 0.05; ** = significance level 0.01

The table above shows that CSR has positive correlations to the duration of designer work, respondent's self-evaluation of his/her knowledge compared to colleagues, and CSR has quite clear relation to the occurrence of general ethical discussions in respondent's work community.

D. Which variables predict CSR

Multiple classification analyses (MCA) is used to find out the question which variables predict social corporate responsibility. MCA examines the relationships between several predictor variables (socio-demographic variables) and a single dependent variable (CSR) and determines the effects of each predictor before and after adjustment for its inter-correlations with other predictors in the analysis. It also provides information about the bivariate and multivariate relationships between the predictors and the dependent variable. The MCA technique can be considered the equivalent of a multiple regression analysis using dummy variables. MCA, however, is often more convenient to use and interpret. MCA also has an option for one-way analysis of variance.

MCA assumes that the effects of the predictors are additive i.e. that there are no interactions between predictors. It is designed for use with predictor variables measured on nominal, ordinal, and interval scales. It accepts an unequal number of

cases in the cells formed by cross-classification of the predictors.

TABLE IV
MULTIPLE CLASSIFICATION ANALYSES (MCA); SOCIO-DEMOGRAPHIC
PREDICTORS OF CSR

Variable	N	Predict ed Mean, Unadju sted	Dev .Un- adju std	Eta	Predict ed Mean, Adj. for Factor s	Dev .Adj uste d for Factor s	Beta
Gender							
Women	11	6.31	-.45		6.33	-.43	
Men	107	6.81	.05	.118	6.80	.04	.112
Age							
Less than 36	33	6.49	-.28		6.42	-.35	
36-45	27	6.57	-.19		6.65	-.11	
46-55	35	6.83	.07		6.90	.14	
56 or more	23	7.28	.51	.235	7.18	.41	.224
Having kids							
No	55	7.05	.28		6.98	.22	
Yes	63	6.51	-.25	.218	6.57	-.19	.167
Vocational training							
Vocational school	9	6.09	-.66		6.27	-.50	
College level	51	6.79	.02		6.63	-.13	
Polytechnic	21	6.86	.09		7.25	.49	
University	37	6.84	.08	.158	6.78	.02	.215
Field of study							
Technical	112	6.76	-.01		6.76	-.01	
Other	6	6.89	.13	.024	6.87	.11	.021
Position in the organisation							
CEO	10	7.81	1.05		7.85	1.08	
Middle management	26	7.16	.39		7.23	.46	
Engineers/designers	76	6.54	-.23		6.50	-.26	
Others	6	6.17	-.60	.346	6.28	-.49	.370*
Weekly working hours							
40 or less	90	6.71	-.06		6.81	.04	
41 or more	28	6.94	.18	.083	6.62	-.14	.066
Size of the enterprise							
Medium size (less than 250 employees)	16	7.26	.50		6.47	-.29	
Large (more than 250 employees)	102	6.68	-.08	.162	6.81	.05	.094
R							.479*
R Square							.229
Grand Mean							6.76

(* p ≤ .05, ** p ≤ .01, *** p ≤ .001)

Together, variables (model) predict 23 % of the variance of CSR. As demonstrated above, the position in the organization is (in MCA) the strongest individual variable predicting the level CSR. Among CEO's, mean after standardization was 7.85. In middle management mean was 7.23 and among engineers/designers it was 6.5. The result shows that position in the organization is related to highest eta- and beta-factors. Therefore the variable is strongest predictor for CSR.

Both age and vocational training level have clear effect towards CSR too. Older respondents valued CSR higher than younger. Predicted mean adjusted for factors was among over 56 years old respondents 7.18. Between three other age groups the variation was not wide, but there was clear tendency for higher valuation of CSR, the older the respondent is. Respondents with vocational training in polytechnic separated from other groups with higher valuation of CSR (7.25). Gender, having kids, field of study, weekly working hours and size of the enterprise has very little effect on CSR. Men (6.80) seem to value CSR a bit higher than women (6.33). Respondents who have not kids valued CSR slightly higher (6.98) than respondents who have kids (6.57).

The standardization of variables in MCA has changed some connections between individual group and CSR. The unadjusted mean of those designers, whose vocational training is polytechnic, is 6.86, and the mean adjusted for factors is 7.25. The enterprise size effect has also changed after standardization: higher level of CSR is found in large enterprises.

The strongest predictor of CSR (in Table IV) is the position in the organisation. The mean of CSR amongst CEOs is 7.85, amongst middle management 7.23, and the mean of CSR is at notably lower level amongst engineers and designers and in the occupational group of others. When considering several individuals in a group, as for instance the position in the organisation, interclass correlation coefficients (ICC) was estimated by components of variance method, and maximum likelihood method. Thus, we examined what proportion of the variance in CSR could be accounted for by within group (position in the organisations). The ICC for CSR was .1985 which means that the position in the organisation explains even 20 % of the total variance of CSR.

IV. DISCUSSION

A. General notions

Focus of the study has been on two things. First to measure the CSR among the sample in terms of "value-bundle" combined of values reflecting the essence of CSR: importance of economic, social and environmental responsibility. Secondly, to find variables that affects to the CSR in order to find differences in valuation belonging to CSR. The methodological need for comparative data from some more contrasting cultures should be pointed out, and the other hand also the notion of values in general: in most cases they contain plenty of more specific, culture-linked single values.

In many senses, the sample appeared relatively alike. Subjects represent small, ethnically homogenous North-European country. Likely in more global comparative perspective the cross-cultural variation in work-related values appeared greater than it is indicated here. Nevertheless, there

are systematic differences within the sample. There are certainly many questions that could be raised in the basis of presented data. Any theoretically full-fledged elaborations or final answers of the results can not be given. The main purpose of this study is to suggest some accounts.

High correlation of value orders among the sample showed that in many respects the means of values were quite similar. For values included in the indicator of CSR, the effect of the position in the organization was strong. The most significant finding in the analysis was that there was a strong correlation between CSR and individuals' position in the organization. Results of MCA indicate that among CEOs' and middle management, CSR is highly emphasized, when in groups of engineers/designers, accents were distinctly minor. This indicates that there is obstruction in forwarding values from management to workers.

There is evidently a danger that corporate social responsibility may not realize unless designers have a clear idea, how they could realize these values in their practical work. This means that corporate communication practices should raise the issue of values on practical level so that people could get a clear idea, how they could realistically help in realizing the corporate goals in this respect.

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