Organizational Culture and Leadership: Preconditions for the Development of a Sustainable Corporation

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ABSTRACT

The relationship between corporate sustainability and organizational culture seems to be underestimated within the discussion of sustainable development. The research presented in this paper is based on a case study conducted in the mining industry. The hypothesis is that ambitious corporate sustainability activities and strategies have to be embedded in the organizational culture in order to be successful. If aspects of sustainable development are not part of the mindset of leaders and members of the organization, corporate sustainability activities will not affect the core business efficiently and are more likely to fail.

The model of Schein for organizational culture is used to characterize corporate sustainability strategies: introverted, extroverted, conservative and visionary strategies are distinguished. Each strategy is assessed regarding the relation and the integration in the levels of organizational culture according to the model of Schein. The model consists of three levels, i.e. artifacts, values and basic assumptions. This framework is used for a case-study to identify the organizational culture of a global leading mining company. Copyright © 2009 John Wiley & Sons, Ltd and ERP Environment.

Introduction

CORPORATIONS CAN AND HAVE TO PLAY AN IMPORTANT ROLE IN THE DEVELOPMENT OF SUSTAINABLE SOCIETIES. There have been many activities to develop sustainable business models and strategies, mainly driven by academics, research institutions and business organizations. Many corporations have started activities such as sustainability reporting (for instance Global Reporting Initiative: www.globalreporting.org) or are listed in sustainability indices (FTSE4Good (www.ftse.com), Dow Jones Sustainability Indices (www.sustainability-index.com)). Starting with sustainability activities, first the low hanging fruits can be grabbed, but in order to integrate sustainability aspects in the daily business of corporations in the long run, the organization has to be

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changed – the organizational culture has to be developed towards sustainability. What are the foundations of sustainable development needed for this organizational change?

Sustainable development emerged as a political concept during the 1980s, most popular due to the definition given by the Brundtland Report (World Commission on Environment and Development, 1987). Sustainable development is the process to reach the goal of sustainability, which can be characterized by four ultimate sustainability objectives (Robèrt *et al.*, 2002, p. 199).

Principle 1. Eliminate our contribution to systematic increases in concentrations of substances from Earth's crust.
Principle 2. Eliminate our contribution to systematic increases in concentrations of substances produced by society.
Principle 3. Eliminate our contribution to the systematic physical degradation of nature through over-harvesting, introductions and other forms of modification.
Principle 4. Contribute as much as we can to the meeting of human needs in our society and worldwide, over and above all the substitution and dematerialization measures taken in meeting the first three objectives.

This means for the economic development to generate wealth, especially for poorer people, in ways that are compatible with these principles (James, 2001, p. 77). Sustainability requires an economic system that meets the needs of people, provides enough jobs and is able to rejuvenate itself in order to provide these services in the long run (Spangenberg, 2001, p. 30).

Corporate Sustainability

Corporate or business sustainability can be defined as 'the adoption of business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future' (IISD *et al.*, 1992).

Van Kleef and Roome define sustainable business management (SBM) as 'management of business that recognizes its embeddedness in social, environmental and economic systems, and focuses on management and relationships to meet the environmental, social, and economic requirements of many different stakeholders in its networks' (Roome, 1998; van Kleef and Roome, 2007, p. 44).

The role of business regarding sustainable development has usually been discussed as 'responsibility' to society, whereby responsibility is defined in a narrow way as the need to eliminate negative effects of business. Approaches focusing on this type of responsibility are only successful over a certain period of time: for instance, eco-efficiency as an aspect of environmental sustainability usually gains big saves in the starting phase; in the following years it becomes harder and harder to find further improvements (Carpenter and White, 2004, pp. 2–52). A broader view of responsibility asks how business can contribute to the goals of sustainable development and how to integrate the view of opportunities into corporate sustainability activities: in other words, looking not only at efficiency but also at effectiveness; for instance Dyllick and Hockerts discuss the relationship of efficiency and effectiveness (Dyllick and Hockerts, 2002). In this case, sustainable development will be a source of value creation – for the company and society.

There are different types of sustainability strategy (Dyllick, 2000; Hardtke and Prehn, 2001; Schaltegger and Dyllick, 2002; Baumgartner, 2005, p. 61):

- introverted
- extroverted/transformative
- conservative
- visionary.

These strategy types describe generic possibilities to deal with the challenge of sustainability, e.g. with different environmental and social aspects of business activities according to the sustainability principles of Robért *et al.* (2002).

An *introverted strategy* is characterized by one central question: is the action for sustainable development necessary and useful for the company? The focus of all activities is the compliance with legal and other external standards concerning environmental and social aspects in order to avoid risks for the company. The pressure for this strategy emanates from outside the company, but the action is mainly internally oriented, therefore it is named 'introverted'. Action will only be taken if standards force an organizational answer. An example of this type of strategy is the substitution of certain materials forced by legislation. Improved working conditions, forced by stakeholder pressure, could be another example.

An *extroverted strategy* focuses on the external relationship of a company. The focus is on public acceptance and the so-called 'license to operate and grow'. Stakeholders are informed about all relevant activities in order to generate a trustful relationship. These companies create ambitious environmental programs, but effort and progress in the light of the sustainability principles can be still minimal. In many cases there seems to be more 'green' communication than real activeness. Examples for this strategy are the publication of environmental or sustainability reports.

In an offensive way this strategy can be transformative. A transformative strategy interacts with the market and tries to change market conditions actively. This strategy aims to create new market opportunities in the light of sustainable development, including elements of the conservative and visionary strategies (Baumgartner, 2005, p. 62).

A *conservative strategy* focuses on eco-efficiency. Products and services are provided with low costs and low consumption of materials and energy. Emissions and waste are avoided. Efficient production processes lead to competitive advantages while environmental impacts are reduced. Frequently cleaner production activities are aligned with a conservative strategy. Opportunities due to integration of sustainable development are detected systematically. As the actions and measures of this strategy are usually within the company, this has a strong internal orientation.

A *visionary strategy* focuses on sustainability issues within all business activities. Sustainable development is incorporated in vision and strategy. Competitive advantages are derived from differentiation and innovation, offering customers and stakeholders unique advantages. For example, new 'product to service solutions' can be mentioned here. Visionary strategies occur in two different forms: in a conventional way and in a systemic way (Baumgartner and Biedermann, 2007). Conventional visionary strategies are based on market opportunities in an opportunistic manner. As long as sustainability issues lead to market advantages, they are part of the strategic management of conventional visionary oriented companies. So the focus is outside in; inputs for the strategy formulation are derived from the market perspective. Systemic visionary strategies combine this view with an inside-out perspective; the marked based view is supplemented with a resource based view and sustainable development is deep seated in the normative level of the company.

These sustainability strategies can be evaluated concerning the orientation on the sustainability principles and the risks as well as the chances linked with this strategy (see Table 1).

		Corporate Sustainability Strategies				
	Introverted	Extroverted		Conservative	Visionary	
		Coventional	Transformative		Conventional	Systemic
Orientation on Sustainable Development	o	+	++	+	+++	+++
Risks	++	+	++	o	+	++
Opportunities	o	+	++	+	++	+++

Table 1. Evaluation of corporate sustainability strategies (based on Baumgartner and Biedermann, 2007, p. 42)
o: no relationship; +: correlation; ++: high correlation; +++: very high correlation.

An introverted strategy does not refer to the principles of sustainable development in a systematic way; it could be described as weak or as a minimum sustainability strategy. Only those principles, e.g. those environmental and social aspects, that are considered in external pressure of stakeholders are regarded. Companies following these strategies are exposed to the risk of non-recognition of important trends and issues caused by sustainable development and the interests of stakeholders in sustainability issues above a minimum level.

Extroverted strategies refer to sustainable development with the focus to legitimize the corporate activities. This is important for companies acting in sectors with raised attention of stakeholders. Conventional extroverted strategies have moderate opportunities and risks; transformative extroverted strategies have higher opportunities and risks. Opportunities are in both cases linked to the image of the company, which increases business chances through a secured (respectively improved) license to operate and grow. This strategy is based mainly on external reporting and information of stakeholders. If these activities are not linked to the daily business and are only marketing exercises, there is a risk of losing the credibility and confidence of the stakeholders.

A conservative strategy contributes to the sustainability principles, especially principles 1–3, due to less material and energy consumption. This strategy can be implemented without appreciable risks. The competitiveness can be increased by improved efficiency and effectiveness of production processes.

Visionary strategies have a very strong orientation on sustainable development; the entire organization is committed to this. There is of course the risk of market acceptance. Chances of the systemic type are higher due to the integrated view of sustainable development than the visionary conventional type.

The evaluation of these strategies shows different levels of sustainability orientation, so they could be seen as different stages of corporate development towards sustainability: the weakest sustainability strategy would be the introverted, the strongest the visionary strategy; conservative and extroverted strategies are middle stages. The next section shows that every strategy differs regarding the effect on and the embeddings in the organizational culture; therefore, the development from one strategy or one stage to the next is maybe more complex than it seems.

Organizational Culture

Concept of Organizational Culture

The concept of corporate or organizational culture (the terms are used here as synonyms) has evolved over the last decades. It is important to keep corporate culture strictly apart from similar looking concepts such as corporate identity, organizational climate or national culture (Scholz, 1987).

The concept of culture has principally stemmed from the study of ethnic and national differences in the disciplines of sociology, anthropology and social psychology. Within organizational theory scholars used the culture concept as a metaphor to study organizations as forums in which meanings are constructed and expressed through social interactions. As it became part of the vocabulary of management thinking, more and more researchers began to employ culture as a variable rather than as 'root metaphor': something an 'organization had' versus something 'it was'. Starting in the 1950s, culture became a mechanism with which to achieve managerial effectiveness and control. During these stages of development, a large number of definitions have been proposed for the concept of culture (Wilson, 2001).

Wilson (2001) identifies three useful and all-embracing definitions.

- Culture refers to (a) the values that lie beneath what the organization rewards, supports and expects; (b) the norms that surround and/or underpin the policies, practices and procedures of organizations; (c) the meaning incumbents share about what the norms and values of the organization are (Schneider, 1988, p. 353).
- At the deeper and less visible level, culture refers to values that are shared by the people in a group and that tend to persist over time even when group membership changes. At the more visible level, culture represents the behavior patterns or style of an organization that new employees are automatically encouraged to follow by their fellow employees. Each level of culture has a tendency to influence the other (Kottler and Heskett, 1992, p. 4).
- The culture of a group can be defined as 'a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered
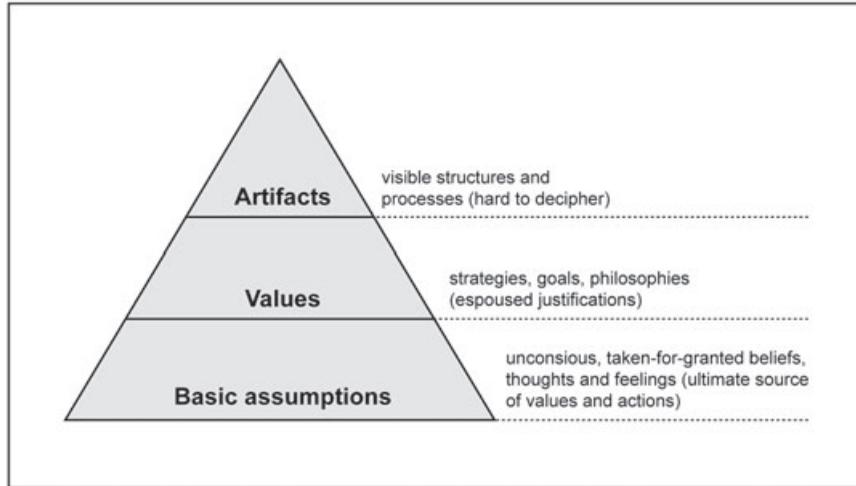
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Figure 1. Levels of organizational culture – examples (based on Schein, 1997, p. 17)

valid and, therefore, to be thought to new members as the correct way to perceive, think, and feel in relation to those problems' (Schein, 1997, p. 12).

Based on these definitions Wilson (2001) identifies four key elements. First, organizational culture is a shared phenomenon (Tichy, 1983; Pfeffer, 1981; Wilkins and Ouchi, 1983; Schein, 1997, p. 8). Second, the majority of authors believe that there are two levels of culture, the visible level and the deeper less visible level (Wilson, 2001). Schein identifies three levels of organizational culture (see Figure 1) (Schein, 1997, p. 17). The third element relates to the manner in which new members learn the culture. Fourth, organizational cultures tend to change slowly over time.

The culture of a group evolves and changes over time as a result of changes in various influencing factors such as business environment, leadership, management practices and formal socialization processes as well as informal socialization processes (Schein in Wilson, 2001).

The question arises of whether changes in an organization's culture can be managed. There is a significant debate between researchers on this issue. Some see culture as a critical component by which an organization can be influenced (Wilson, 2001; Tichy, 1983; Deal and Kennedy, 1982; Schein, 1997). Others question whether organizational culture is indeed manageable because of the existence of subcultures (Smircich, 1983) or whether everything that is named culture and related to culture is really culture and not better related to strategic directions and structures (Bryman, 1984).

From a positivistic point of view, culture is a variable that can be managed within organizations; from a constructivist point of view, reality is subjective, 'constructed' through individuals and their social interaction (Bieker, 2005). In the constructivist view culture cannot be managed, only social interactions, which construct the organizational culture, can be influenced. The constructivist perspective corresponds to Schein's view on culture, although he sounds positivistic when he describes cultural change.

Organizational Culture and Corporate Sustainability Strategies

This section describes the relationship between organizational culture and corporate sustainability strategies. The discussion, based on the constructivist perspective of organizational culture, uses the definition of Schein.

According to Schein, culture can be analyzed at three different levels; the term level refers to the degree to which the cultural phenomenon is visible to the observer (see Figure 1). These levels range from the very tangible overt manifestations that one can see and feel to the deeply embedded, unconscious basic assumptions that Schein defines as the essence of culture. In between are various espoused values, norms and rules of behavior that members of the culture use as way of depicting the culture to themselves and others (Schein, 1997, p. 16).

Schein describes *artifacts* as follows (Schein, 1997, p. 17): 'At the surface we have the level of artifacts, which include all the phenomena that one sees, hears, and feels when one encounters a new group with an unfamiliar culture. Artifacts would include the visible products of the group such as the architecture of its physical environment, its language, its technology and products, its artistic creations, and its style as embodied in clothing, manners of address, emotional displays, myths and stories told about the organization, published lists of values, observable rituals and ceremonies, and so on'.

This level is easy to observe and very difficult to decipher. It is dangerous trying to infer the deeper assumptions from artifacts alone, because one's interpretations will inevitably be projections of one's own feelings and reactions (Schein, 1997, p. 17). Examples for these are products, office arrangement, architecture, documentation, language, technology employed, dress style, myths and stories about the company, rituals and ceremonies.

Espoused values are espoused justifications, usually based on the learning history of the organization: if a solution for a problem works and if the group has a shared perception of that success, then the value starts a process of cognitive transformation. First it will be transformed into a *shared value* or belief, and ultimately into a *shared assumption.* If this transformation process occurs (it will occur only if the proposed solution continues to work) group members will tend to forget that originally they were not sure and that the proposed course of action was at an earlier time debated and confronted. Only those values can be transformed that are susceptible to physical or social validation. Schein defines social validation as a process of a group confirming certain values only by its shared social experience. Values dealing with less controllable elements or with aesthetic or moral matters of the environment are not testable physically, but social validation is possible. Values will predict much of the behavior that can be observed at the artifactual level; if they are not based on prior learning (Argyris and Schön, 1978, in Schein, 1997) they reflect only what people will say in a variety of situations, which may be out of line with what they would do in situations if these values are operating. Values at this conscious level help to interpret the level of artifacts. Organizational values arise and have a certain historic development and are difficult to change or prescribe (Schein, 1997, p. 19).

If this cognitive transformation of values is successful, values change to basic assumptions; they are taken for granted. What once was a hypothesis gradually comes to be treated as a reality. There is little variation of basic assumptions within a cultural unit; they are similar to the 'theories-in-use' identified by Argyris. Basic assumptions are implicit, guiding individual behavior and telling group members how to perceive, think and feel about things. This level is most difficult to change. Since the human mind needs cognitive stability, any challenge to or questioning of a basic assumption will release fear and defensiveness (Schein, 1997, p. 21). Any group's culture can be studied at these three levels; the essence of a culture gives a description of the pattern of basic underlying assumptions, and one once understands these, one can easily understand the other more surface levels and deal appropriately with them (Schein, 1997, p. 26).

Schein's model is used to explore the relationship to corporate sustainability strategies discussed previously. The question is whether there is any relation between the cultural level and the strategy types. For this analysis, each level is described in more detail: the level of artifacts is represented through structures and processes, the level of values through strategies, goals and philosophies and the level of basic assumptions through views, cogitations and emotions (see Table 2). Based on the presented typology of sustainability strategies it is qualitatively analyzed whether or if not each level of organizational culture is affected, for example it is assessed whether the conservative strategy requires certain basic assumptions or not.

Introverted strategies require no foundation of sustainability aspects in the level of basic assumptions; the strategy can be implemented without any specific view or cogitation or emotion about sustainable development. Strategies and goals reflect external pressure to reduce risk and to reach legal compliance. Artifacts such as compliance oriented management systems are not necessary, but can occur.

Extroverted strategies are characterized through external communication: instruments such as environmental or sustainability reports are used; for this, internal structures are usually necessary. Corresponding strategies and goals occur at the level of espoused values. At the level of basic assumptions no foundation is required for the conventional extroverted strategy type; stakeholder communication and integration is possible without special views or emotions. In the case of transformative extroverted strategies it seems not possible to influence external stakeholders without a positive view about sustainability, so the level of basic assumptions is affected.

	Introverted	Extroverted		Conservative	Visionary	
Corporate Sustainability Strategies						
		Coventional	Transformative		Conventional	Systemic
Artifacts						
• Structures	×	+	+	+	++	++
• Processes	×	×	×	+	+	++
Values						
• Strategies	+	+	+	+	+	++
• Goals	+	+	+	+	+	++
• Philosophies	×	×	×	+	+	++
Basic Assumptions						
• Views	×	×	+	+	+	++
• Cogitations	×	×	×	×	+	++
• Emotions	×	×	×	×	×	×

Table 2. Relationship between corporate sustainability strategies and levels of organizational culture (based on Baumgartner and Biedermann, 2007, p. 44)
+: relationship, precondition ++: strong relationship; ×: no relationship, not necessary.

Conservative strategies need a foundation in the level of values: as there are production processes in focus, values should reflect the efficient and effective use of resources and the minimization of waste and emissions. These aspects must be part of the corporate philosophy, which should correspond to views that are open to efficiency and effectiveness, e.g. that are economic rational, in the basic assumptions, too.

Visionary strategies are embedded in all cultural levels; they show different sustainability related artifacts which are based in strategies, goals and philosophies at the level of values, which have to be based on basic assumptions. At the level of basic assumptions views and cogitations related to the idea of sustainable development have to be positive; in the case of systemic visionary strategies additionally emotions within basic assumptions are important.

Identifying Organizational Culture in the Light of Sustainable Development: a Case Study

The developed framework was used in a case study to identify the embeddings of sustainability aspects in the organizational culture of a company. The case study was carried out in one of the biggest international mining companies. Based on an analysis of sustainability reports and other public available material, the corporate sustainability strategy is classified as a conventional extroverted sustainability strategy; the focus was on securing and enhancing the license to operate with the vision 'Be the miner of choice'. As input for the redesign of the corporate sustainability strategy, the embeddings of sustainability aspects in the organizational culture were of interest: are sustainability issues really relevant for the members of the organization and are they part of the culture?

This case study was based on Schein's cultural model. For the identification of organizational cultures, Schein distinguishes between cultural insiders and cultural outsiders. For outsiders he suggests two methods: the iterative clinical interview and the inquiring interview methodology. In case of the iterative clinical interview, an outsider becomes part of the group and actually experiences the culture. This approach is time consuming. An alternative is to conduct interviews with individuals or a group of the organization (Schein, 1997, p. 169).

Interviews with employees from different departments and hierarchy levels have been conducted in the headquarters and in one operation (see Table 3). The interview partners were selected together with the corporate project manager in order to get an overview over different departments and hierarchical levels. A few days before the

No.	Department	Interview date
1	CEO of company division, headquarters	11 October 2006
2	Principal performance adviser, headquarters (former environmental manager of an operation)	11 October 2006
3	Head of investor relations, headquarters	11 October 2006
4	General manager for governmental and external relations, headquarters	11 October 2006
5	Manager for strategic marketing planning, headquarters	11 October 2006
6	General manager human resources, headquarters	11 October 2006
7	Internal communication adviser, headquarters	10 October 2006
8	General manager, operation	31 October 2006
9	Plant and health, safety and environmental manager, operation	3 November 2006

Table 3. List of interview partners

Artifacts

    Please describe all artifacts, all visible things that are related to corporate activities in the field of sustainable development.

Values

    a) Why are you doing what you are doing?
    b) Which artifacts attracted your attention when joined the company/department?
    c) What are the values of the company?
    d) What are your personal values?
    e) Which value is most important for you?
    f) Which value of the company is least important for you?
    g) Which value of the company is important for you?

Basic assumptions

    h) Can the values identified really describe all artifacts?
    i) Are there issues that have been described as going on which are not explained or are in conflict with some of the values articulated?

Additional questions

    j) How do you define sustainable development? How do you/would you measure sustainable development?
    k) Do you integrate sustainability aspects into your personal work? How do you integrate sustainability aspects into your personal work?
    l) Do you lead sustainability aspects?

Figure 2. Interview checklist

interviews took place, a context paper with background information abut the project and the concept of organizational culture was submitted to the interviewees.

The interviews were based on the model of Schoenberger (1991) and designed as an open discussion with the interview partner about culture and sustainability and not as a fixed order of questions. For the interview a set of guiding questions, grouped into aspects according to the Schein model, was used as a checklist to secure that all relevant cultural issues are discussed within the interview (see Figure 2). Each interview was recorded with a dictaphone and took approximately one hour. All interviews were analysed qualitatively, i.e. the information was interpreted according to Schein's cultural levels. For instance, all mentioned artefacts were listed or all information belonging to the complex of values was clustered and interpreted: is there a consensus between the interviews or are there differences? One tried to regard the credibility and authenticity of each interview.

Different artefacts related to corporate sustainability activities have been identified: policies and documents, training programs, HSEQ communication, sustainable development reporting (from business units and the group) and community programs.

Identified main values are safety and the commitment to shareholder value; beside them identified values were compliance, reputation and sustainable development as good business practice and an internal culture of collaboration. Sustainable development was mentioned partly and is valued as support to create shareholder value – but does not have the same status as safety. Additionally, there is uncertainty about sustainable development being an important issue for the future: it is valued as key factor to become the miner of choice and to ensure access to resources in the future.

Besides safety and commitment to shareholder value there exists no consensus about the other values, and conflicts were mentioned by the interviewees (see Figure 3).

Figure 3 illustrates that sustainable development is not an unchallenged value; there are discussions, uncertainty and tensions about sustainable development, especially about the further development regarding corporate sustainable development activities. One reason for this could be the question of whether mining itself can be sustainable: this is debatable, but this sector can also contribute to the sustainability objectives and improve its sustainability performance. As long non-renewable resources are not substitutable for many products, mining will be a relevant part of the economic sector, but of course with its duty to minimize negative impacts and to maximize its contribution to sustainable development and to the sustainability objectives.

The deepest level of organizational culture is the level of basic assumptions. Basic assumptions can not be asked about directly, they can only be identified by discussing inconsistencies between artifacts, values and/or actions. The interviews gave some indication about basic assumptions – there seem to be at least two.

- Climate change: there is no business case for making money while protecting the climate.
- Production versus safety: safety should be above production goals, but some employees and supervisors still make negative compromises against the official line: don't compromise safety.
- Senior managers don't live the sustainability policies: any senior manager is measured by profit, they are under enormous pressure.
- Shareholders are not interested in sustainability activities and do not value them.
- The role of environmental managers and Sustainable Development managers/Sustainable Development champions is not valued within the company, it is expected from senior managers, but not valued – there is a conflict between statements and doing.
- Operations feel frustrated about being measured only on time and costs, all other things are not valued.
- Is Sustainable Development a project or a long term goal? Activities and policies exist now, what will be in a few years?
- Discrepancy between talking about Sustainable Development and the real actions: nobody reads the Sustainable Development reports, there is much more pressure to make profit than on Sustainable Development.
- At the moment there is a very strict program on cost reduction – this doesn't fit with other values like Sustainable Development.
- Sustainable Development is not collectively seen as value.
- Senior management doesn't value people as much as they should.
- There is a market we have to go into, the more time we spend (with unproductive issues like SD) the more money we lose.

Figure 3. Statements illustrating conflicting values

> - All values based on money; that's good.
> - All should be part of the business case and support the shareholder value.
> - It is essential to show the monetary value of any issue.
> - The company has to make money.
> - Measuring things with hard facts is a value.
> - The company seems to be conservative, traditional, risk averse and risk aware.
> - Measurement is very important.
> - Decisions are made at the top level.
> - Things that can not be measured are less valued – there is a culture of measuring.
> - The company has a quite formal and strong culture.

Figure 4. Statements supporting the identified basic assumptions

- The company has to make money for its shareholders.
- Measurement and controlling is a central aspect of doing business.

This interpretation is based on statements presented in Figure 4. These basic assumptions indicate that a visionary strategy, i.e. the full integration of sustainability principles within the company, is difficult. It would require adding sustainability as an additional element of the basic assumptions, as part of corporate views and cogitations.

Sustainable development is part of the actual strategy, which is shown in the list of artifacts. It seems to be partly integrated at the level of values and is not part of the organizational basic assumptions. Sustainable development is seen as an important factor for business success, but there is some uncertainty concerning the future relevance: will there be the same effort in a few years' time?

From an external point of view, the company follows a conventional extroverted sustainable development strategy: there is a focus on external relationships; the strategic goal of the sustainability activities is to become the miner of choice and to be a credible participant in policy making.

A conventional extroverted strategy needs no foundation of sustainable development at the level of basic assumptions of organizational culture (this does not mean that this would not be useful): the level of values is concerned with strategies and goals (not philosophy). However, the interviews show uncertainty concerning future sustainability activities; deeper integration of the sustainable development strategy into business processes also requires the integration of sustainable development at the level of values (philosophy) and basic assumptions.

In order to enable the integration of sustainable development aspects at the level of values and basic assumptions of the organization's organizational culture two points are essential.

First, it is necessary to show the business case for sustainable development. This means to link systematically all aspects of sustainable development to shareholder value, directly or indirectly. Sustainable development has to be made measurable. Additionally, sustainable development must be part of controlling processes and the performance of managers has also to be measured on sustainable development aspects. The following statements illustrate this task.

- Sustainable development helped the company to accelerate permitting of new projects.
- There is nothing that hinders the integration of sustainable development into the organizational culture except that we are not able to show the business case more clearly. It is kind of anecdotal and not systematic at the moment. We have the values but we can not demonstrate the value.
- A hindrance is that sustainable development performance is not linked to salary.

Second, it is necessary to give confidence about sustainable development as a long-term strategy of the company. Senior managers have to value the importance of sustainable development.

Conclusion

Companies shows different reactions to the challenge of sustainable development: there are companies who still ignore sustainability issues; other companies are acting like 'greenwashers' (Welford, 1997) and change only their rhetoric, not their business practice, and there are companies who try to integrate sustainability aspects into their strategies and business practices. One important point for companies willing to be more sustainable is the awareness of their organizational culture and to reach a fit between the culture and the sustainability activities. If sustainability strategies and activities conform with the organizational culture, the risk of hijacked environmentalism or hijacked sustainability is minimized. This is the starting point for the research presented in this paper, which is based on a case study carried out in a global mining company. This company included sustainability aspects in its strategy, but uncertainty occurred about the foundation of sustainability issues and sustainability thinking within the organization. In order to answer this question, corporate sustainability strategies were structured and characterized and their relation to organizational culture, based on Schein's model of organizational culture, analyzed and assessed. With interviews in the headquarters and an operation, artifacts, values and hypotheses concerning basic assumptions could be identified and certain recommendations were derived. This research was qualitative; the case study shows the principal applicability and practicality, but more case studies are important to prove the model in other companies and sectors, also other qualitative research methodologies regarding identification of organizational cultures should be analyzed.

Further research is necessary about cultural change processes in the context of sustainable development: can the concept of sustainable development be a catalyst for organizational change processes and how can an organizational culture be developed towards sustainable development?

Acknowledgements

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