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Organisational Involvement of Corporate Functions in Sustainability Management

An Empirical Analysis of Large
German Companies



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ABSTRACT

This paper investigates whether and to what extent different corporate functions are involved in corporate sustainability management. Most of the existing literature agrees that sustainable development of a company is a cross-functional challenge. It thus seems obvious that all corporate functions or departments should be involved in sustainability management. An empirical analysis of large German companies in 2010, however, reveals large differences between the functional units.

We propose a framework which distinguishes different components of involvement in practice: affectedness by sustainability issues, promotion of the implementation of corporate sustainability and application of specific sustainability management tools.

The main findings are that with regard to the kind and the degree of involvement some corporate functions like CSR, communications and strategic management are heavily involved. Contrary to these functions, accounting, management control and finance are considered to be largely unaffected by sustainability. Overall, significant links between affectedness and the application of sustainability management tools exist as well as between the promotion of corporate sustainability and tool application whereas the affectedness of a functional unit influences the application of tools the most.

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CONTENTS

Abstract	III
Acknowledgements	III
Contents	IV
Figures	V
Tables	V
1. Introduction	6
2. Conceptual model and hypotheses.....	8
2.1. Model: Components of involvement.....	8
2.2. Hypotheses	9
3. Methodology.....	12
4. Empirical results and analysis	13
4.1. Affectedness, promotion and their effects on the application of tools.....	13
4.2. Differences in the involvement of different corporate functions	14
5. Conclusions.....	17
References.....	18

FIGURES

Figure 1: Conceptual model of components of involvement in corporate sustainability	8
Figure 2: Affectedness of corporate functions by sustainability issues	15
Figure 3: Functional units' promotion of corporate sustainability	15
Figure 4: Application of tools of corporate functions in the sustainability management	16

TABLES

Table 1: Corporate functions and selection of typical sustainability management tools	11
Table 2: Annual turnover/total assets/gross premiums of the survey sample	12
Table 3: Number of employees of the survey sample	12
Table 4: Effects of affectedness and promotion on the application of tools	13
Table 5: Multinomial logistic regression	13
Table 6: Coefficient of contingency of affectedness and promotion	14

1. INTRODUCTION

Sustainable development has to be initiated and organised. It does not happen on its own accord but requires involvement and contributions of a multitude of organisations and actors. As companies are important players that greatly influence the environment and society, sustainable development will only be achieved if they get actively involved in shaping sustainability measures and projects (e.g. Shrivastava 1995). Sustainability management in companies in turn requires the involvement of various actors within each company, i.e. decision makers and staff (e.g. Griffiths & Petrick 2001; Hunting & Tilbury 2006). But involvement in sustainability management is not only an important issue for individuals within a company since various authors postulate that sustainability management is a cross-functional challenge which requires the involvement of every corporate function (Dunphy et al. 2007; Epstein 2008, 90ff.; Hunting & Tilbury 2006; Martin et al. 2007).

Similarly to cross-functionality, in the literature it is stated that all steps of value creation should be involved in sustainability management (Carter & Rogers 2008; Singh et al. 2008). This includes the supply chain and related departments like purchasing, logistics, production, research and development (R&D), sales and marketing (e.g. Bowen et al. 2001; Carter & Dresner 2001; Darnall et al. 2008; Seuring & Müller 2008) as well as supporting functions such as strategic planning, public relations (PR), human resources (HR), accounting, management control and corporate finance etc. (e.g. Porter 1985; Schaltegger & Burritt 2005; Shrivastava & Hart 1995).

Purchasing for instance is expected to deal with issues such as green procurement (Carter & Dresner 2001) and sustainable supply chain management (e.g. Seuring & Müller 2008) whereas *logistics* is expected to reduce carbon emissions (e.g. Oglethorpe & Heron 2010) and to optimise distribution. The *production* department is responsible for clean production processes securing compliance with regulatory requirements on safety, air emissions and toxic waste. *R&D* is frequently seen as a driving force for sustainability innovation (e.g. Hansen et al. 2009; Hart 1997; Prahalad & Hart 2002) whereas *marketing* is challenged to conduct market research on consumer preferences for sustainability attributes and to develop eco-marketing campaigns (e.g. Belz 2006; Peattie 2001).

In addition, other functions can also be involved such as HR, PR, accounting, management control and corporate finance. *Strategic planning* is often addressed in the sustainability management literature to have a core role in supporting top management to draw up and employ the company's sustainability strategy (Wagner 2007). *PR* and corporate communications – although sometimes criticised to be too dominant in sustainability management – can exert an important role in designing stakeholder dialogues and sustainability reports (Black & Härtel 2004; Clark 2000). *HR* furthermore traditionally deals with social and employee issues (Daily & Huang 2001) whereas *finance*, *accounting* and *management control* support management with sustainability relevant information, performance measures and management reports (Burritt et al. 2002; Henri & Journeault 2010; Schaltegger & Burritt 2000). This goes to show that there is no corporate function which has not been assigned a sustainability management role in literature or which is not expected to be involved in the implementation of corporate sustainability.

In addition to those mentioned challenges and measures of a single corporate function many sustainability management tasks, like the integration of sustainability into the corporation's core business or the usage of tools such as a sustainability balanced scorecard, require the cooperation of various functional units. All corporate functions are able (and challenged) to contribute to the sustainable development of the company, no matter whether they do this with internal activities or externally with publicly recognised measures.

The specific organisation of these functions, i.e. whether they are arranged as specific departments or whether they are clustered or covered by individual staff members or managers, depends on a company's characteristics such as its size or historical background. Although management research involves studies about individual involvement of staff, training, corporate culture etc. (e.g. Daily & Huang 2001) the research has so far neglected to analyse empirically how much the different corporate functions within one company are involved in the implementation of corporate sustainability. This gap in studies leads to the following research question: *In which way do functional units contribute to the implementation of sustainability management and what influences a functional unit's level of involvement?*

This paper will answer this question by having a closer look at three particular aspects: how much different corporate functions are affected by sustainability issues, to what extent they are promoting the implementation of corporate sustainability and whether they apply appropriate sustainability management tools. These three aspects are understood here as *components of involvement* and will be discussed in the model that this paper establishes. Based on a survey among large German companies in 2010, this paper tests the conceptual model and examines these components of involvement.

The article is structured as follows: Section 2 distinguishes different components of involvement in sustainability management and proposes hypotheses based on the conceptual model. The methodology used to test the hypotheses is described in Section 3. The subsequent Section 4 first shows and discusses the survey results regarding the different components of involvement. Section 5 summarises the findings and provides recommendations to increase a functional unit's involvement.

2. CONCEPTUAL MODEL AND HYPOTHESES

2.1. Model: Components of involvement

Involvement in corporate sustainability is defined here as the purposeful and inclusive activity with which a corporate function is affected by sustainability issues and promoting the implementation of sustainability management. A corporate function is considered involved in sustainability management if it 1) is affected by sustainability issues, 2) promotes the implementation of corporate sustainability and 3) applies appropriate sustainability management tools. These three components form the model displayed in Figure 1.

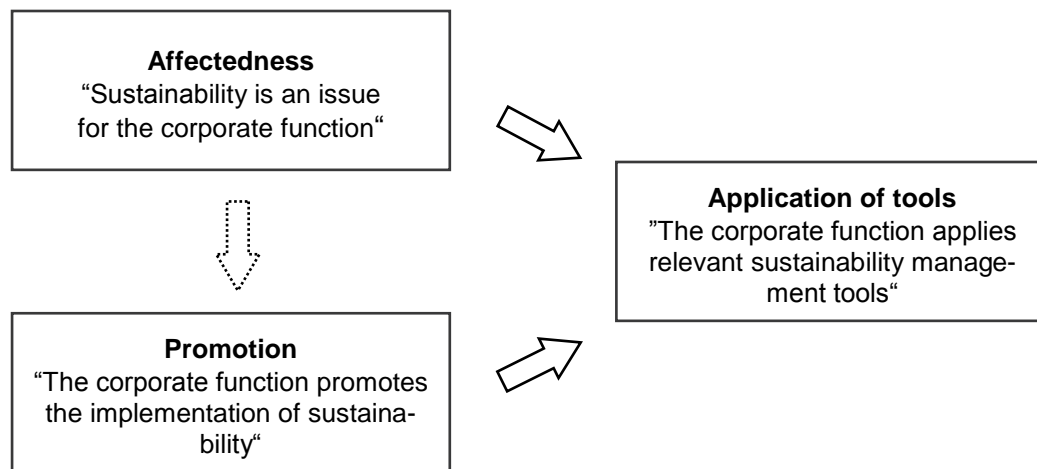


Figure 1: Conceptual model of components of involvement in corporate sustainability

Affectedness by sustainability issues

Various authors suggest that companies start to occupy themselves with sustainability when they feel affected by environmental and social issues or when they are pushed by stakeholders (DiMaggio & Powell 1983; Dunphy et al. 2007; Freeman 1984). Responding to stakeholder requirements is often directed towards securing legitimacy (e.g. Bansal & Roth 2000; DiMaggio & Powell 1983; Nijhof et al. 2008) or responding to a market pull (e.g. Bansal & Roth 2000; Hahn & Scheermesser 2006; Meffert & Kirchgeorg 1998; Nijhof et al. 2008). Thus, a first step of involvement is reached if a corporate function is aware of its affectedness by sustainability issues. Such affectedness may be a reaction to external pressures or demands or is based on a company's internal motivation to respond to environmental, social, economic and integrative challenges of sustainable development.

Promoting the implementation of corporate sustainability

As a distinction, the promotion of corporate sustainability expresses a positive and more proactive attitude of a functional unit, e.g. in the form of supporting activities within the company or by taking own measures. Reasons for fostering the implementation of sustainability management may be very different, ranging from an intrinsic interest in sustainability improvements, such as offering more environmentally friendly and socially responsible products and services or the reduction of energy consumption and costs, to the wish to help others in the

company to fulfil their duties or the insight of interdependencies between the departments (e.g. Schaltegger 2011). Such differences are neglected here, as the main research interest is to examine in which way the functional units contribute to the implementation of corporate sustainability.

Application of sustainability management tools

In addition to those two components, a corporate function's involvement in sustainability management requires the application of sustainability management tools such as an eco-efficiency analysis, stakeholder dialogue or employee volunteering (e.g. BMU 2003). A requirement for application of tools is that appropriate tools to implement corporate sustainability exist and that the functional unit has access to these tools. If these conditions are not met, it is possible that a functional unit is affected by sustainability issues and promoting the implementation of corporate sustainability but still does not apply sustainability management tools.

2.2. Hypotheses

As the conceptual model (Figure 1) displays, this paper argues that a functional unit's involvement in corporate sustainability requires 1) its affectedness by sustainability issues, 2) the promotion of corporate sustainability and 3) the application of appropriate sustainability management tools. These three components are supposed to be interrelated. It can be expected that *affectedness and promotion* positively influence practical *application of specific tools*. Therefore, the first hypothesis is as follows.

H1: Affectedness (AF) and promotion (P) stimulate the application of tools (AT).

With:

- AF Affectedness
- AT Application of tools
- P Promoting the implementation of corporate sustainability

Both affectedness and promotion are expected to have a positive effect on the application of tools in a functional unit. With reference to the suggested hypothesis, in the following the concepts of affectedness, promotion and tool application are explained in more detail. Thereafter the effects of affectedness and promotion on the application of tools as well as their relative weights will be evaluated.

Affectedness of a corporate function is given if the functional unit is pushed or pulled to deal with sustainability issues, internally for instance by the top management or externally by regulation, stakeholders such as customers and NGOs or other factors. Given the driving character of this component of involvement it does not appear very promising to discuss affectedness with the representatives of the corporate function because it can be expected that they rather give strategic or evasive responses instead of qualitatively reliable ones (e.g. Banerjee 2001; Carter & Jennings 2004). A more accurate answer can be expected from respondents who have a vivid interest in sustainability and the involvement of all corporate

functions. The main actor whose duty it is to motivate and integrate all corporate functions into the sustainable development of the company is the corporate sustainability manager. Therefore the sustainability managers of large companies in Germany were asked to what extent they perceive different corporate functions to be affected by sustainability issues. Specifying H1, the second hypothesis is formulated with regard to affectedness:

H2: The more a corporate function is affected by sustainability (AF), the likelier it is to apply sustainability management tools (AT).

In contrast to such affectedness of sustainability issues, a functional unit may as well be intrinsically motivated to improve the sustainability performance of the company and support others with its knowledge and skills in the company's sustainability measures and projects. Given the cross-functional character of corporate sustainability such support may be beneficial for the functional unit's contribution to the implementation of sustainability management. This *promotion of corporate sustainability* (P) may be mostly appreciated by those seeking for support in implementing sustainability processes and measures. A key actor who has a good overview of who promotes sustainable development processes in a company is again the corporate sustainability manager. Therefore the sustainability managers of the surveyed companies were asked which corporate functions they consider to be promoting the implementation of corporate sustainability in their organisation. In accordance with the model, promotion is expected to have a positive influence on the application of tools. Thus, the third hypothesis is:

H3: The more a corporate function is promoting corporate sustainability (P), the likelier it is to apply sustainability management tools (AT).

Researchers have proposed a large number of sustainability management tools in literature (e.g. BMU 2003; Hahn & Scheermesser 2006; Tencati et al. 2004). The discussed tools address different aspects of sustainability, such as environmental or social issues or integrative aspects of sustainability with labels, reports or cost accounting. Table 1 provides an overview of sustainability management tools which are widely discussed in literature and which can be applied by the respective corporate function. For each corporate function, three representative tools have been selected out of a list of 79 sustainability management tools which was provided in the questionnaire.

The number and nomenclatures of the corporate functions can of course vary depending on the company, the industry as well as on regulatory and market conditions. Table 1 is therefore not conclusive but provides an overview of departments which are frequently mentioned in management literature.

Corporate function	Sustainability management tools
Purchasing/logistics	Green purchasing Green/sustainable supply chain management Material flow analysis/material and energy flow accounting
Production/R&D	Design (eco, sustainable) Product carbon footprint Eco-efficiency-analysis
Marketing	Label (eco, social, sustainability) Sponsoring (eco, social, sustainability) Marketing (eco, social, sustainability)
Strategic planning	Mission statement (environmental, social, sustainability) Risk/scenario analysis Early detection
PR	Report (environmental, social, HR, sustainability) Environmental declaration Stakeholder dialogue
HR	Continuous education Suggestion scheme Employee/corporate volunteering
Corporate finance/ accounting/management control	Controlling (eco, social, sustainability) Accounting (environmental, material and energy flow, social, sustainability) Cost accounting (environmental, material flow, social)

Table 1: Corporate functions and selection of typical sustainability management tools

Table 1 indicates that a wide range of strategic and operative tools of sustainability management can be applied by corporate functions. However, as resources – i.e. time, personnel and capital – are limited, it can be expected that functional units and management need to make choices and mainly implement those sustainability management tools that they consider to be necessary or beneficial. The choice and application of different sustainability management tools thus reflect implementation priorities and differences in the involvement of the corporate functions in sustainability management in practice.

Regarding the involvement in sustainability management, the focus of the analysis is on whether a corporate function takes measures in the form of applying specific tools of sustainability management. To measure the actual applicative on in sustainability management, the corporate representatives were asked which sustainability management tools the company applies. Since three representative tools were chosen for each functional unit the values for “application of tools” (AT) range from 0 to 3. Within the analysis the following three types of application of tools were distinguished:

- *No* application of tools: The functional unit does not apply any of the available tools (0 tools).
- *Partial* application of tools: The functional unit applies some, but not all of the available tools (1-2 tools).
- *Complete* application of tools: The functional unit applies all available tools (3 tools).

3. METHODOLOGY

The research findings presented in this paper are based on an empirical survey carried out between November 2009 and February 2010. The study focuses on large German companies for three reasons: firstly, large companies are publically exposed (Brammer & Pavelin 2006). Various pressures of enforcement can thus be expected to drive corporate functions to engage in sustainability. Large companies can furthermore be expected to have the resources to inform themselves about sustainability management tools and to apply them on a large scale, e.g. in different departments, divisions etc. With the focus on one country the study excludes influences related to contingencies that some corporate sustainability management tools may be regulated or promoted more in one country than in another.

The survey was directed at large German companies by turnover (according to the German newspaper Welt online 2009; see Tables 2 and 3 for the sample characteristics). The sustainability managers or other persons in charge of sustainability issues were contacted by phone and asked to fill in a questionnaire sent to them by e-mail or mail. 334 questionnaires were sent out. The response rate was 33.5% (n=112). The respondents were mostly sustainability, EHS or CSR managers or, to a lower extent, associated with PR or communications. To validate the survey a pre-test was conducted. The data were analysed with SPSS Statistics 19.

Annual turnover/ total assets/gross premiums	Frequency	Percentage
0 – 50	3	2.68%
> 50 – 500	12	10.71 %
> 500 – 1,500	18	16.07%
> 1,500 – 2,500	24	21.43%
> 2,500 – 5,000	16	14.29%
> 5,000 – 50,000	17	15.18%
> 50,000	19	16.96%
No answer	3	2.68%
<i>Total</i>	<i>112</i>	<i>100.00%</i>

Table 2: Annual turnover/total assets/gross premiums of the survey sample

Number of employees	Frequency	Percentage
0 – 50	0	0%
51 – 250	3	2.68%
251 – 1,000	13	11.61%
1,000 – 10,000	55	49.11%
10,001 – 100,000	31	27.68%
> 100,000	10	8.93%
<i>Total</i>	<i>112</i>	<i>100.00%</i>

Table 3: Number of employees of the survey sample

The questionnaire provided a set of corporate functions (to measure affectedness and promotion) and a list of 79 sustainability management tools (to assess the application of tools) drawn from a review of contemporary sustainability management literature.

4. EMPIRICAL RESULTS AND ANALYSIS

4.1. Affectedness, promotion and their effects on the application of tools

To analyse whether a functional unit's affectedness and promotion are related to its application of appropriate sustainability management tools the direct effects of such influence have been tested.

Influencing Variables (IV)	C (IV*AT)	Eta coefficient (Eta ²)	r (Pearson)
Affectedness	0,387***	0,344 (0,118)	0,308***
Promotion	0,254***	0,249 (0,062)	-

C (AT): Coefficient of contingency of the influencing variable and the number of applied tools (AT)
 *** 1% level of significance; ** 5% level of significance; * 10% level of significance

Table 4: Effects of affectedness and promotion on the application of tools

As can be seen in Table 4 affectedness and promotion of a functional unit have a significant impact on the application of tools. A more detailed analysis of the contingency tables reveals that affectedness and promotion of the implementation of corporate sustainability indeed stimulate the application of tools.

A multinomial logistic regression, analysing the combined effect of affectedness and promotion on the application of tools confirms the above findings (Table 5).

Test of likelihood-quotients		Chi ²	Significance
AF (Affectedness)		37,434***	,000
P (Promotion)		6,320**	,042

Parametric Rating		B	Significance
No application	Constant Term	,468	,245
	AF (Affectedness)	-,343***	,002
	P (Promotion)	,189	,386
Complete application	Constant Term	-1,789**	,000
	AF (Affectedness)	,431***	,000
	P (Promotion)	-,450*	,058

Category of reference: Partial application
 Number of observations: 674
 Pseudo R² (Nagelkerke): 0,12
 P is a dummy variable. Here the effect of P=0 (not promoting) is tested. The effect of P=1 is redundant.
 *** 1% level of significance; ** 5% level of significance; * 10% level of significance

Table 5: Multinomial logistic regression

The highly significant likelihood-quotients suggest that affectedness and promotion are well able to influence the application of sustainability management tools.

As the regression coefficients (B) of affectedness demonstrate, a functional unit is more likely to apply tools the more it is affected by sustainability issues. The negative coefficient for the case of "no application" suggests that functional units which are affected by sustainability

issues to a high degree are unlikely not to apply relevant tools. Similarly, the positive coefficient for the case of complete application demonstrates that functional units with higher values of affectedness are more likely to apply all relevant tools.

The coefficients for promotion reveal a significant influence as well. Here it can be seen that if a functional unit is not promoting ($P=0$) it is unlikely to be involved in the application of sustainability management tools.

Since promotion and affectedness may be interrelated, their relationship has been tested as well. Table 6 displays that a significant relation of intermediate strength between these two factors exists.

C (AF*P)
0,464***
C (AF*P): Coefficient of contingency (of affectedness and promotion)
*** 1% level of significance; ** 5% level of significance; * 10% level of significance

Table 6: Coefficient of contingency of affectedness and promotion

This goes to show that the results of the above regression analysis need to be interpreted with great care. However, the difference in strength between the regression coefficients of affectedness and promotion as well as the contingency coefficients displayed in Table 4 provides an insight on the strength of effects, if both variables are taken into account. The higher and more significant coefficients of affectedness therefore confirm that affectedness has a stronger influence on the application of tools than promotion.

All this goes to show that Hypotheses H2 and H3, and thus H1, can be confirmed.

4.2. Differences in the involvement of different corporate functions

The previous sub-section demonstrates that a functional unit's involvement in corporate sustainability is influenced by its affectedness of sustainability issues and its promotion of the implementation of corporate sustainability. Figure 2 depicts the average results on a scale from 1 (not at all affected) to 5 (completely affected).

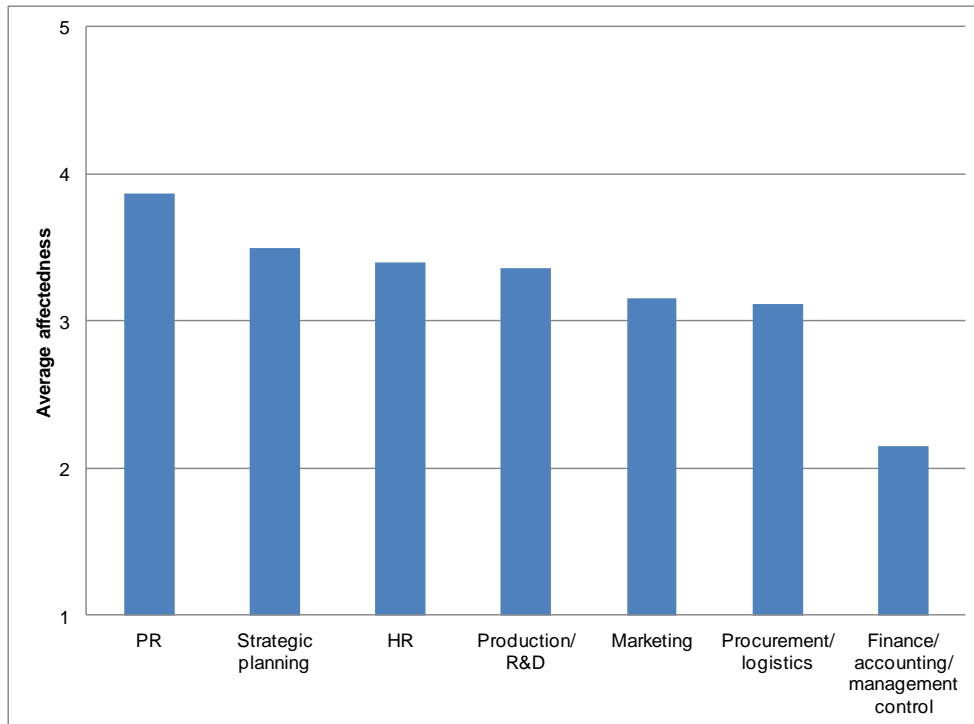


Figure 2: Affectedness of corporate functions by sustainability issues (range from 1 (not at all affected) to 5 (completely affected))

All functional units seem to be affected by sustainability issues, at least to a certain degree. Nevertheless, substantial differences between the functional units exist. PR and corporate communications for instance are perceived to be strongly affected by sustainability issues whereas finance, accounting and management control are affected only to a small degree. All other functions can be found in the middle of the scale, ranging from 3.1 on average (procurement/logistics) to 3.5 (strategic planning).

The survey results for promotion are shown in Figure 3.

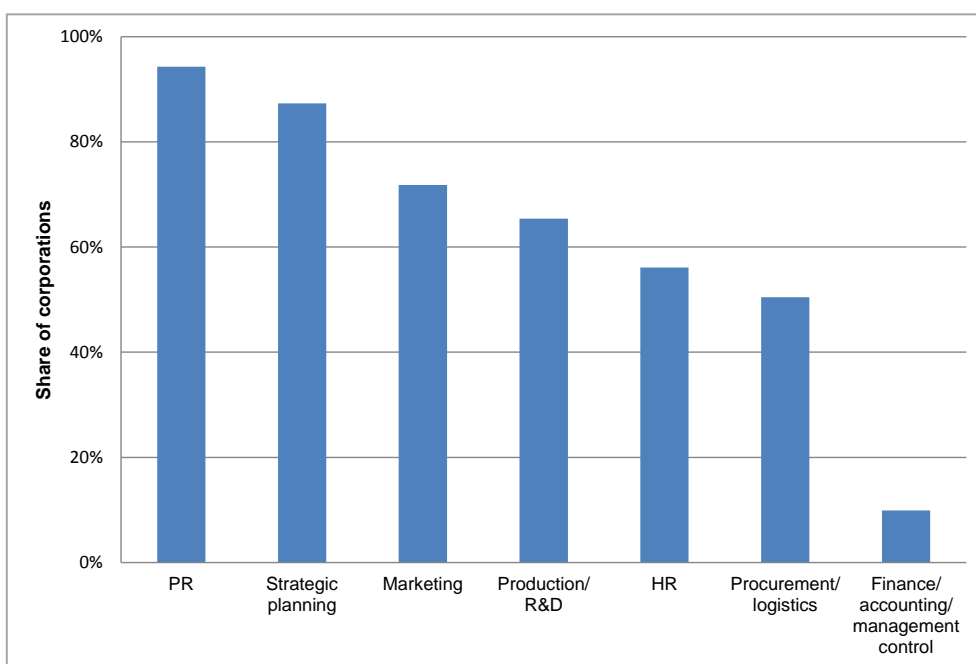


Figure 3: Functional units' promotion of corporate sustainability

Compared to the evaluation of affectedness even bigger differences can be found when comparing the average promotion of corporate functions: the corporate functions which are considered to promote corporate sustainability the most are PR/corporate communications (for 89.3% of all companies) and strategic planning (79.5%), while finance, accounting and management control are reported to be promoting in only 8% of all cases. In contrast to affectedness, where it held the third rank, HR is perceived to be among the functional units that promote corporate sustainability less.

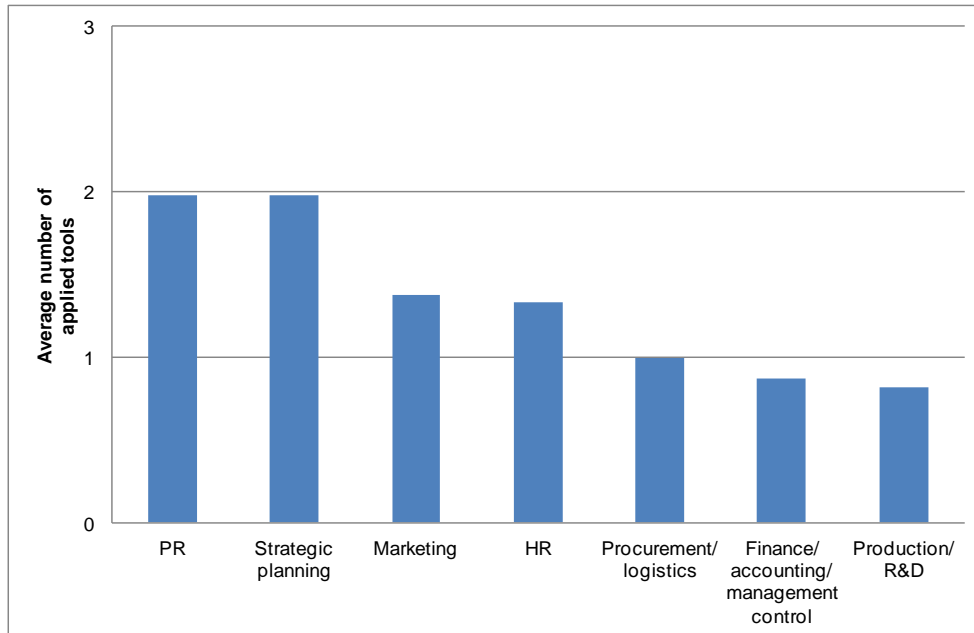


Figure 4: Application of tools of corporate functions in the sustainability management

As predicted by the model, the differences between corporate functions considering affectedness and promotion also cause considerable differences in the application of sustainability management tools. Whereas the PR and the strategy department on average both apply 1.98 of the 3 specific tools, only 0.82 respectively 0.87 tools are applied in production/R&D and finance/accounting/management control on average. As it is the case for affectedness, procurements/logistics (1.00); HR (1.33) and marketing (1.38) occupy more modest positions (compare Figure 4).

5. CONCLUSIONS

Sustainability management is a cross-functional challenge (e.g. Dunphy 2007; Epstein 2008, 90ff.; Hunting & Tilbury 2006; Schaltegger & Burritt 2005). To master this challenge cross-functional collaboration is needed which in turn requires the involvement of all corporate functions. The survey of large German companies, which served to analyse different components of involvement in sustainability management, shows large differences between corporate functions. In summary the involvement is highest for PR/communications and the lowest involvement can be seen for finance, accounting and management control and for production/R&D. This shows an overall picture that large German companies may be mainly concerned about securing their reputation and legitimacy with their sustainability management rather than managing costs and profitability. However, keeping in mind that accounting and management control constitute the core information system for managers, a stronger involvement of finance, accounting and management control is highly recommended.

The empirical analysis revealed that affectedness and promotion are both well able to foster a functional unit's involvement. The data suggests that an increase in affectedness is even a little bit more promising than an increase in the promotion of corporate sustainability. Still a functional unit's promotion of the implementation of corporate sustainability can be influenced more by a corporate sustainability manager (e.g. by awareness programs, information campaigns) than its affectedness, which is rather a result of (external) stakeholder pressures.

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