

## Excellence in Supply Chain Sustainability

Sustainability as a Challenge and Opportunity for Today's Companies



WE FULFIL OUR CORPORATE RESPONSIBILITY TO OUR EMPLOYEES, THE ENVIRONMENT,  
AND SUBSEQUENT GENERATIONS VIA SUSTAINABLE ECONOMIC ACTIVITY.

OUR LOGISTICS PROCESSES LINK ECONOMIC, ECOLOGICAL AND SOCIAL OBJECTIVES.

OUR SUSTAINABILITY MANAGEMENT ENSURES THAT RESOURCES ARE EFFICIENTLY  
UTILISED AND RISKS ARE RECOGNISED.

*Bernhard Doesken, Member of Management Board DIRKS Group*

#### ABOUT LOGICA

Logica is a business and technology service company, employing 39,000 people. It provides business consulting, systems integration and outsourcing to clients around the world, including many of Europe's largest businesses. Logica creates value for clients by successfully integrating people, business and technology. It is committed to long term collaboration, applying insight to create innovative answers to clients' business needs. Logica is listed on both the London Stock Exchange and Euronext (Amsterdam) (LSE: LOG; Euronext: LOG).

More information is available at [www.logica.de](http://www.logica.de)

#### ABOUT THE SUPPLY CHAIN MANAGEMENT INSTITUTE (SMI)

The Supply Chain Management Institute at EBS Business School is one of the leading research institutes for Purchasing, Logistics and Supply Chain Management worldwide. The institute offers undergraduate and graduate education for EBS students, as well as continuing and executive education for professionals. Cutting-edge topics are investigated and advanced in studies and research projects in collaboration with renowned academic and corporate partners. Moreover, SMI works closely with an international network of scholars and corporate representatives, and maintains offices in China (Shanghai), Russia (Moscow, St. Petersburg) and India (Bangalore).

More information is available at [www.ebs.edu/smi](http://www.ebs.edu/smi)

## PREFACE

---

As individuals we are encouraged to separate waste, to switch off the light when leaving the room and to follow all kinds of governmental regulations drawing on sustainability issues. But what is it that companies do? With so many pressing strategic issues at hand, one more important than the other, and with a worldwide economic crisis that has just passed by, could it be that sustainability gets a raw deal from companies and does not receive the attention it should?

The answer at least to this last question is very simple: Sustainability is a priority objective for companies across all industries and is dealt with at the highest strategic level. This is one of the core results from the study “Excellence in Supply Chain Sustainability” conducted by the Supply Chain Management Institute of the EBS Business School, which supplied the scientific capabilities, and Logica, which accompanied and supported the study with business insights required to accomplish such a project.

As a very young scientific branch, sustainability is not yet fully explored and leaves vast opportunities both for research as well as for practical guidelines. Many questions remain open – questions that this study intends to answer. This study draws a comprehensive picture of what companies understand sustainability to be. We investigate what companies think about the concept of sustainability and the relevance that it has in today’s corporate environment.

We are not only able to identify drivers of and barriers to the pursuit of sustainability but also offer practical advice on how to cope with the challenges sustainability presents. Introducing change to a company and its organisational structure is never easy, and companies can always use a hand or two. By means of this study, companies cannot only assess where they are in terms of sustainability and compare themselves to the rest of the industry but they are also given the tools to advance to a next level in the pursuit of sustainability.

Dr. Andreas Potzner  
Director  
Center for Sustainable Supply Chain Management  
Supply Chain Management Institute

Steven Blythe  
Managing Director - Sector Head Trade,  
Transport & Industrial  
Logica Deutschland GmbH & Co. KG

## EXECUTIVE SUMMARY

---

The goal of the study “Excellence in Supply Chain Sustainability” was to investigate sustainability in today’s companies, its implementation and also to identify both driving and impeding factors. The study is the result of the cooperation between the Supply Chain Management Institute of the EBS Business School, which supplied the scientific capabilities, and Logica, a business and technology service company, which accompanied and supported the study with business insights required to accomplish such a project. Over 100 companies from a variety of industries participated. The majority of operations are based in Europe but many of the participating companies are globally active. Data gathering took place between November 2010 and February 2011. In the analysis a special focus was placed on the logistics and transportation sector due to its importance as one of the three largest industries in Germany, and its large impact on the environment. Within the sample 49% of the participants came from the logistics and transportation industry.

The most important finding exposes the relationship between sustainability and companies’ performance. The more companies engage in pollution prevention activities in production and in sustainable development, the better their economic performance is. The more companies pursue activities such as switching modes of transportation or fleet modernisation, the more sustainable their competitive advantage is likely to be compared to the industry average. Furthermore, the following key results were found:

### COMPANIES DECLARE SUSTAINABILITY TO BE A HIGH-PRIORITY OBJECTIVE

- Sustainability is a priority objective for companies across all industries and is dealt with at the highest strategic level – according to the study’s participants. However, when it comes to resource dedication, companies’ support is substantially lower. Still, 68% of the participants stated that the share of corporate annual budgets dedicated to sustainability would increase over the next three years. Top-performing companies devote twice as much attention to sustainability as low-performing ones do. Although logistics companies often lack direct contact to end consumers, they dedicate almost as much effort as non-logistics companies do to sustainability.

### COMPANY LEADERSHIP AND CUSTOMERS PUSH FIRMS TOWARDS SUSTAINABILITY

- There is a gap between different groups of stakeholders. Overall, competitors, investors, employees and suppliers play a side role in sustainability.
- The most important drivers for sustainability are company leadership, governments and customers. This picture is going to intensify in the future: 87% of the participants believe that customers will become even more important, and 75% think the same of company leadership. It is not the prospect of a surplus on the regular price that motivates companies but customer demand for sustainability and the risk that customers might switch to competitors.
- When it comes to governments as a driver, best practice companies show a strong

emphasis on future regulations, i.e. they try to anticipate them and prepare accordingly, while low-performing firms confine themselves to fulfilling current regulations.

- Logistics providers perceive customers and the general public as even more pressing drivers than non-logistics firms do.

### THE LACK OF COMMITMENT IS MORE OBSTRUCTIVE THAN THE COST OF SUSTAINABILITY

- The lack of customers' willingness to pay a surcharge for sustainability and insufficient management commitment are the strongest barriers to sustainability. Also, the necessary time commitment to sustainability is perceived to be more hindering than high upfront investments and operational costs related to sustainability are. In the future, the lack of resources such as time, human and financial resources, is going to become more important.
- Logistics companies as well as low-performing companies perceive all types of barriers to be more obstructing than non-logistics companies and top-performing companies do.

### COMPANIES START WITH THEIR OWN PRODUCTION SITES WHEN IT COMES TO PRACTISING SUSTAINABILITY

- The focus is set on pollution prevention in production and service delivery rather than on pollution prevention in logistics. 80% of the companies engage in activities to reduce water consumption, 65% in waste reduction and 63% in material consumption. Top-performing companies are clearly more active in this respect than low-performing companies. Logistics companies are obviously leading in activities such as switching modes of transportation, consolidating shipments and modernising their fleet.

### TOP-PERFORMERS PURSUE THE HOLISTIC INTEGRATION OF STAKEHOLDERS INTO THE SUSTAINABILITY STRATEGY FORMULATION

- Internal stakeholders such as employees and customers plus the general public are the groups that companies integrate to the highest extent into their sustainability strategy formulation, while most external stakeholders such as investors, governments or competitors lag far behind in terms of being integrated into the strategy formulation.
- Low-performing companies seem to set their focus only on employees and customers, while top-performing companies take a more holistic approach in the integration of stakeholders. Non-logistics companies integrate their employees to a wider extent than logistics companies do.

### ISO CERTIFICATIONS PLAY THE GREATEST ROLE

- The quality management certification ISO 9000 and the sustainability management certification ISO 14000 are the certifications that companies pursue the most, with all others (e.g. SA 8000, EMAS) lagging far behind. Top-performing companies have considerably more experience with certifications than low-performing companies do. The latter even seem to have no expertise at all with some of the certifications under scrutiny. Non-logistics companies have certainly more experience with certifications

than logistics companies do, which could be explained by the smaller degree of applicability of many certifications to logistics companies.

### **SURVEY DATA PROVIDES RECOMMENDATIONS ON HOW TO BECOME A SUSTAINABLE CORPORATION**

- According to the theoretical framework of Nidumolu, Prahalad and Rangaswami (2009), a company can be classified as being a dreamer, a qualifier, a follower or a winner in terms of how it approaches sustainability. From the analysis of the survey data, we can give clear recommendations on how to reach each category.
- Dreamers fulfil only the minimum requirements for sustainability such as meeting current legal regulations. To become a qualifier companies need to engage in pollution prevention activities such as reducing water and energy usage. In order to reach the next level and become a follower, a company needs to integrate customers and the general public closely into their sustainability strategy formulation. To reach the top class of the winners and thus the maximum performance, companies do not only need to perform all of the above activities but also dedicate substantial resources to sustainability, pursue new technologies and integrate investors, employees and competitors in order to create a sustainability strategy together with them.

# TABLE OF CONTENTS

---

I Preface	3
II Executive Summary	4
III Table of Contents	7
IV List of Figures	8
V List of Tables	9
1 Introduction	10
2 Concept of the Study	12
2.1 Research Methodology	12
2.2 General Information about Participants and Companies	13
2.3 Spotlight on Logistics	16
2.4 Top-Performers and Low-Performers	17
3 General Sustainability Orientation	18
4 Sustainability Drivers	22
4.1 Customers	22
4.2 Governments	24
4.3 Company Leadership	26
4.4 General Public	28
4.5 Competitors	30
4.6 Investors	31
4.7 Employees	31
4.8 Suppliers	32
4.9 Changes in Drivers	33
5 Barriers to Sustainability	36
5.1 Lack of Resources	36
5.2 Lack of Opportunities	37
5.3 Environmental Uncertainty	39
5.4 Change of Barriers	42
6 Sustainability Practices	44
6.1 Pollution Prevention in Production and Service Delivery	44
6.2 Pollution Prevention in Logistics	46
6.3 Product and Service Redesign	48
6.4 Sustainable Development	51
7 Stakeholder Integration Capability	54
8 Quality and Sustainability Experience	57
9 Recommendations towards Becoming a Sustainable Corporation	61
10 Conclusion	67
11 References	69

## LIST OF FIGURES

---

Figure 1: Components of Sustainability	11
Figure 2: Location of the Companies' Operations	14
Figure 3: Industry Background of the Participating Companies	15
Figure 4: Positions of Participants	15
Figure 5: General Sustainability Orientation	18
Figure 6: Top- and Low-Performers – General Sustainability Orientation	20
Figure 7: Drivers of Sustainability – Customers	23
Figure 8: Top- and Low-Performers – Customers as Drivers	24
Figure 9: Drivers of Sustainability – Governments	25
Figure 10: Top- and Low-Performers – Governments	26
Figure 11: Drivers of Sustainability – Company Leadership/Management	27
Figure 12: Top- and Low-Performers – Company Leadership/Management	28
Figure 13: Drivers of Sustainability – General Public	29
Figure 14: Top- and Low-Performers – General Public	29
Figure 15: Top- and Low-Performers – Competitors	31
Figure 16: Drivers of Sustainability – Employees	32
Figure 17: Changes in Sustainability – Drivers in the Next 3 Years	34
Figure 18: Top- and Low-Performers – Changes in Importance of Drivers	35
Figure 19: Barriers to Sustainability – Lack of Resources	37
Figure 20: Barriers to Sustainability – Lack of Opportunities	38
Figure 21: Barriers to Sustainability – Environmental Uncertainty	40
Figure 22: Top- and Low-Performers – Lack of Resources	41
Figure 23: Top- and Low-Performers – Lack of Opportunities	42
Figure 24: Top- and Low-Performers – Environmental Uncertainty	42
Figure 25: Barriers to Sustainability – Change in the Next 3 Years	43
Figure 26: Sustainability Practices – Pollution Prevention in Production and Service Delivery	45
Figure 27: Top- and Low-Performers – Pollution Prevention in Production and Service Delivery	46
Figure 28: Sustainability Practices – Pollution Prevention in Logistics	47
Figure 29: Top- and Low-Performers – Pollution Prevention in Logistics	48
Figure 30: Sustainability Practices – Redesign of Products and Services	49
Figure 31: Top- and Low-Performers – Redesign of Products and Services	51
Figure 32: Sustainability Practices – Sustainable Development	52



Figure 33: Top- and Low-Performers – Sustainable Development	52
Figure 34: Stakeholder Integration Capability	55
Figure 35: Top- and Low-Performers – Stakeholder Integration Capability	56
Figure 36: Quality and Sustainability Experience	58
Figure 37: Top- and Low-Performers – Quality and Sustainability Experience	59
Figure 38: Four Steps towards Becoming a Sustainable Corporation	62

## LIST OF TABLES

---

Table 1: Content of Questionnaire	13
Table 2: Quality and Sustainability Systems and Certifications	57

# 1 INTRODUCTION

---

Jib Ellison, founder of a consultancy for sustainability – Blu Skye Sustainability Consulting – said the following: “Sustainability represents the biggest business opportunity of the 21st century” (Plambeck and Denend, 2007).

To say it with the words of a participant of the study “Excellence in Supply Chain Sustainability”: “The importance will increase exponentially without a doubt”. The reasons are manifold. While various participants clearly state that the growing lack of resources and raw materials will serve as a booster for sustainability, many others worry about skilled staff: “Qualified and motivated employees are going to choose their employer according to social and environmental criteria”. The issue's depiction is multifarious, almost picturesque. While one manager characterises sustainability as a “megatrend”, the next describes it even as the “leitmotif” of corporate strategies in the future. Sustainability will be one of the most important factors which decide the future battle for business development. Another participant, also convinced of the growing importance of sustainability, puts it even more radically: “Sustainability will be the core element of all successful corporate strategies”.

But what about today? Is it correct to claim that sustainability is just another arduous task for companies?

In fact, many companies today already disagree with this statement. More and more companies perceive sustainability as an opportunity instead of as a nuisance. A plentitude of firms have identified sustainability to be an advantageous way of conducting business – be it because they realise that it means cost savings, or being able to meet the demands of their customers who prefer sustainable products, or because they want to prevent litigation or want to secure access to key resources. As of now, sustainability is on the agenda of most global companies. The omnipresence of the topic has made it just about impossible for firms to “dodge” and to escape the discussion. This discussion is fuelled by the single question whether a focus on sustainability will yield a competitive advantage or if it will only consume resources without rendering an appropriate return.

In their striving for sustainable development, companies have moved on from adopting either the sheer ecological approach or the purely monetary perspective and have broadened their minds. They embrace the concept now in a holistic fashion: Not only economic aspects are of importance but environmental and social criteria as well.

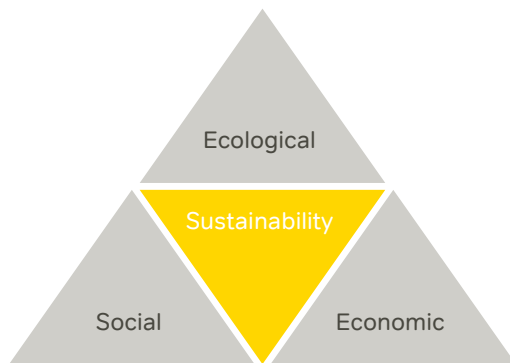


Figure 1: Components of Sustainability

The Triple Bottom Line as seen in Figure 1 refers to the costs and values associated with doing business beyond traditional measures of accounting. Through this perspective, environmental and social costs are measured alongside purely financial gauges (Werbach 2009, p. 111).

Sustainable Development has been defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). To achieve a sustainable world, renewable resources can be used no faster than the rate at which they regenerate. Pollution and wastes can be emitted no faster than natural systems can absorb them, recycle them, or render them harmless. And nonrenewable resources can be used no faster than renewable substitutes for them can be introduced.

Ideas to enhance the sustainability of a company such as waste reduction, recyclability of products and fair treatment of employees do not have a deteriorating effect on profitability. The opposite may be the case since saving waste, for instance, means saving resources. Due to the emergent nature of sustainability in practice as well as in science many questions have yet to be answered:

- Does sustainability have a positive impact on the performance of a company?
- How do companies gain an advantage from sustainable practices and how do these best practices set them apart from the competition?
- What do managers perceive as barriers to embracing the concept?
- What are the actual drivers of sustainability?

Answers to these and numerous other questions are provided by the analysis of the survey data and present the outcome of the cooperation between the Supply Chain Management Institute (SMI) of the EBS Business School, which supplied the scientific capabilities, and Logica, which accompanied and supported the study with business insights required to accomplish such a project. This study sheds light on the still opaque picture painted by researchers and practitioners in the field of sustainability management.

## 2 CONCEPT OF THE STUDY

---

### 2.1 RESEARCH METHODOLOGY

The research methodology of this study was based on a collection of primary data by means of a standardised questionnaire. The seven main parts of the questionnaire consisted of 121 Likert-scale questions, ranging from “1” to “7”, where a “1” indicated an answer in the negative and a “7” generally speaking indicated a strong affirmation. These questions were complemented by rating questions providing the participant several possible answers. In addition, data concerning general information about the participant and a future outlook were collected with open-ended questions. A more precise overview of the questions can be found in Table 1. The questionnaire was designed in cooperation with experts from the field of supply chain management as well as sustainability, with either a research or an industrial background.

Participants were invited to participate in the study by answering the web-based questionnaire. Firms were selected from the company database Hoppenstedt Firmeninformationen GmbH based on their industry and firm size or participated proactively upon individual initiative. In addition, data collection was facilitated by telephone support which guided participants through the questionnaire. The data gathering process took place from November 2010 to February 2011.

Group	Sub-group	Number of Items	Type of Question
General Sustainability Orientation	Sustainability strategy	4	Likert-scale
	Sustainability organisation	4	Likert-scale
	Sustainability budget	2	Rating
Sustainability Drivers	Customers	4	Likert-scale
	Governments	4	Likert-scale
	Company leadership/ management	5	Likert-scale
	General public	4	Likert-scale
	Competitors	4	Likert-scale
	Investors	4	Likert-scale
	Employees	4	Likert-scale
	Suppliers	4	Likert-scale
	Change of drivers	8	Rating
	Barriers to Sustainability	Lack of resources	4
Lack of opportunities		5	Likert-scale
Environmental uncertainty		4	Likert-scale
Change of barriers		3	Likert-scale
Sustainability Practices	Pollution prevention in production / services	5	Likert-scale
	Pollution prevention in logistics	5	Likert-scale
	Product / service design	4	Likert-scale
	Sustainable development	4	Likert-scale
Stakeholder Integration Capability	Direct company stakeholders	4	Likert-scale
	Indirect company stakeholders	5	Likert-scale
Quality and Sustainability Experience	Quality management	4	Likert-scale
	Sustainability management	7	Likert-scale
Sustainability Performance	Economic	5	Likert-scale
	Environmental	6	Likert-scale
	Social	4	Likert-scale
	Average performance of industry	3	Likert-scale
General Information	Number of employees	6	Rating
	Sales volume 2009	8	Rating
	Industrial sector	7	Rating
	Location of operations	8	Rating
	Level of employment	6	Rating
	Functional area	1	Open-ended
	Number of years of professional experience	1	Open-ended
Number of years in the current position	1	Open-ended	
Future Perspective	Development of sustainability	1	Open-ended

Table 1: Content of Questionnaire

## 2.2 GENERAL INFORMATION ABOUT PARTICIPANTS AND COMPANIES

More than 100 companies participated in the survey. Participating companies operate all around the globe, with the majority of operations based in Europe (61). Only a few companies have their operations based in Australia (4) and companies operating in Asia, North and South America and Africa are nearly equally dispersed (Figure 2). Furthermore, participants could give multiple replies and a considerable number of companies (32) conduct operations on a global scale. This implies that the results of the study are not only applicable to Germany but have a global relevance.

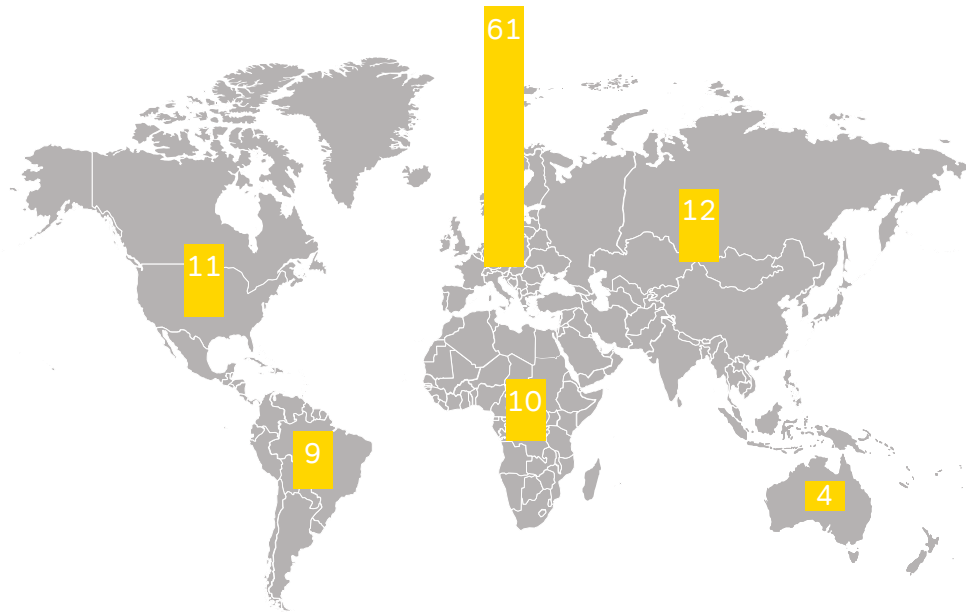


Figure 2: Location of the Companies' Operations

The largest share of these companies has more than 10,000 employees (29%). However, a considerably large number of small companies participated (22%) as well. With regards to sales volume the largest group indicated a volume of more than 5 million euros (24%) followed by the second largest group with a sales volume between 25 and 125 million euros (23%). Almost the majority of companies considered themselves as logistics and transportation companies (49%). The second largest group originated from the consumer goods industry (15%) – as depicted in Figure 3. Other industries represented were automotive, chemical and pharmaceuticals, electronics and electronic equipment and machinery manufacturing. Hence, the participants covered a wide range of industries and diverse firm sizes, which further enhances the validity and significance of the study's results and makes generally applicable conclusions possible.

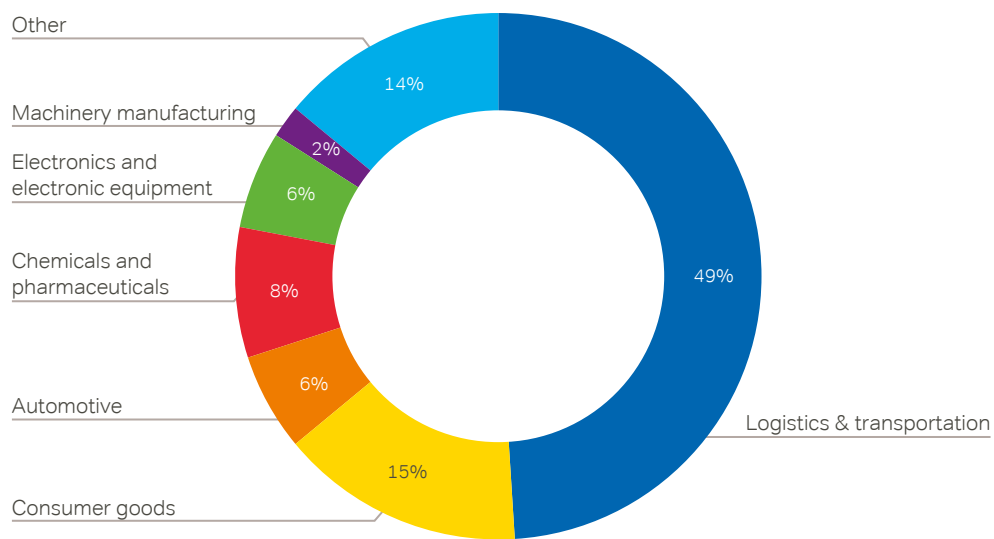


Figure 3: Industry Background of the Participating Companies

44% of the participants had more than 21 years of work experience and only 6% indicated work experience of less than two years. The largest share of participants had been at their current job between three to five years (32%). These facts demonstrate the substantial experience the respondents had and add to the quality of the research. Most importantly, participants of the study were mainly senior and middle managers, who made up more than two-thirds of the overall participants (Figure 4). This in turn unveils the respondents' suitability to give qualified answers to questions regarding all aspects of their companies.

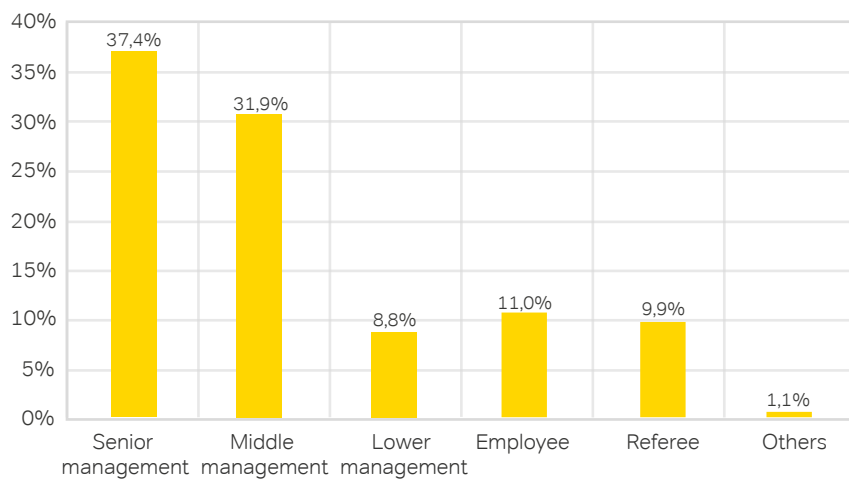


Figure 4: Positions of Participants

## 2.3 SPOTLIGHT ON LOGISTICS

The study conducted by the SMI and Logica was meant to broaden the reader's understanding not only of sustainability in general but also of the sustainability efforts of logistics companies. Nearly half of the participating firms had a logistics background and thus the study benefited from their expertise on sustainable supply chain issues. Focus was placed on logistics for several reasons. First, logistics is one of the three largest industries in Germany, displaying growth rates of 4.5% up until 2008 (Deutsche Bank Research, 2008). It is expected to recover fully from the economic crisis in 2011, regaining its "usual" growth rate of 5% (Verkehrsrundschau, 2010).

Second, sustainability issues are particularly important for the logistics sector since energy consumption and the dependence on oil, an already scarce resource, are notably high in this industry. This is also relevant for issues related to greenhouse gases since logistics and transportation companies make a major contribution to global CO<sub>2</sub> emissions. Estimates for the amount of CO<sub>2</sub> emissions transportation accounts for oscillate around 23% (International Energy Agency, 2009).

Third, the pressure exerted on the logistics sector by corporate customers will increase. Tenders will soon include social and environmental criteria in addition to economic ones. Firms will transfer the pressure their customers' exert on them to pursue sustainability directly to their logistics providers. Prices in this competitive environment are already converging and cease to apply as a differentiating factor. Thus, sustainability is likely to take their place and to become an important differentiating factor. Only the logistics provider which is sustainable will be awarded a contract.

Furthermore, it is only a matter of time until sustainability will be required by law. For instance, while road transportation is already subject to strict regulations concerning emissions, the aviation industry will be controlled by laws regarding emissions, efficiency, etc., from 2012 onwards. The industry is to be included in the European Union Emissions Trading System, which regulates and controls the greenhouse gas emissions in the EU.

Precisely these facts yield the opportunity for logistics companies to really make a difference and impact others by taking on a pioneering role. Hence, not only because of the impending legal aggravation, it seems rewarding that logistics companies proactively approach the concept of sustainability.

Logistics is relevant to every modern consumer as nearly all products entail value added qualities through logistics. Commodity flows might take place out of the end consumer's sight but are embedded and closely linked to daily life activities. Only by means of logistics and transportation can the many modern life conveniences be facilitated in the first place. However, due to its supporting function and thus ostensible background role, many people are not aware of the part logistics plays in their daily life. Analogously, they are not familiar with the fact that logistics can really make a difference in terms of sustainability. This taken together with the aforementioned reasons spurs the need for a closer look at the state of sustainability in the logistics and transportation sector.



## 2.4 TOP-PERFORMERS AND LOW-PERFORMERS

Naturally, the participating companies were heterogeneous – to say the least. The firms differed in size, industry, organisational form and, of course, in terms of success. Those that varied in terms of success are very likely to display differences in their practices and in their take on sustainability in general. Hence, it seems rewarding to distinguish companies by standardised criteria in order to form groups of top-performers and low-performers. Among other valuable insights, the link between an overall performance and the practices with regard to sustainability can be established and evaluated.

The differentiation was done by questions concerning firm performance. Thus, companies which belonged to the highest 10% with regard to economic, environmental and social performance according to their own self-assessment formed the group of top-performers. Respectively, companies belonging to the bottom 10% according to their self-evaluation were grouped as low-performers. The assortment in groups allows a statistical comparison for all the other questions in order to discover the patterns of top- and low-performing companies in the data.

The distinction between top- and low-performers was done for cross-sector companies, i.e. all companies that participated, as seen in the overview of industries in Figure 3.

### 3 GENERAL SUSTAINABILITY ORIENTATION

The importance of sustainability for companies is seemingly indisputable. The study is able to support this thesis by delivering statistical facts. The starting chapter establishes the basis for all of the following ones as it assesses the corporate standing of sustainability and the degree to which it has arrived in corporate minds, organisations and strategies.

The section “General Sustainability Orientation” is divided into different subgroups (Figure 5). The first four questions address the topic of sustainability strategy and the last four questions are summarised under the topic of a sustainability organisation. A “1” represents “not at all”, whereas a “7” stands for “to a great extent”. The percentages indicate the relative number of all participants that indicated a value of “5” or higher.

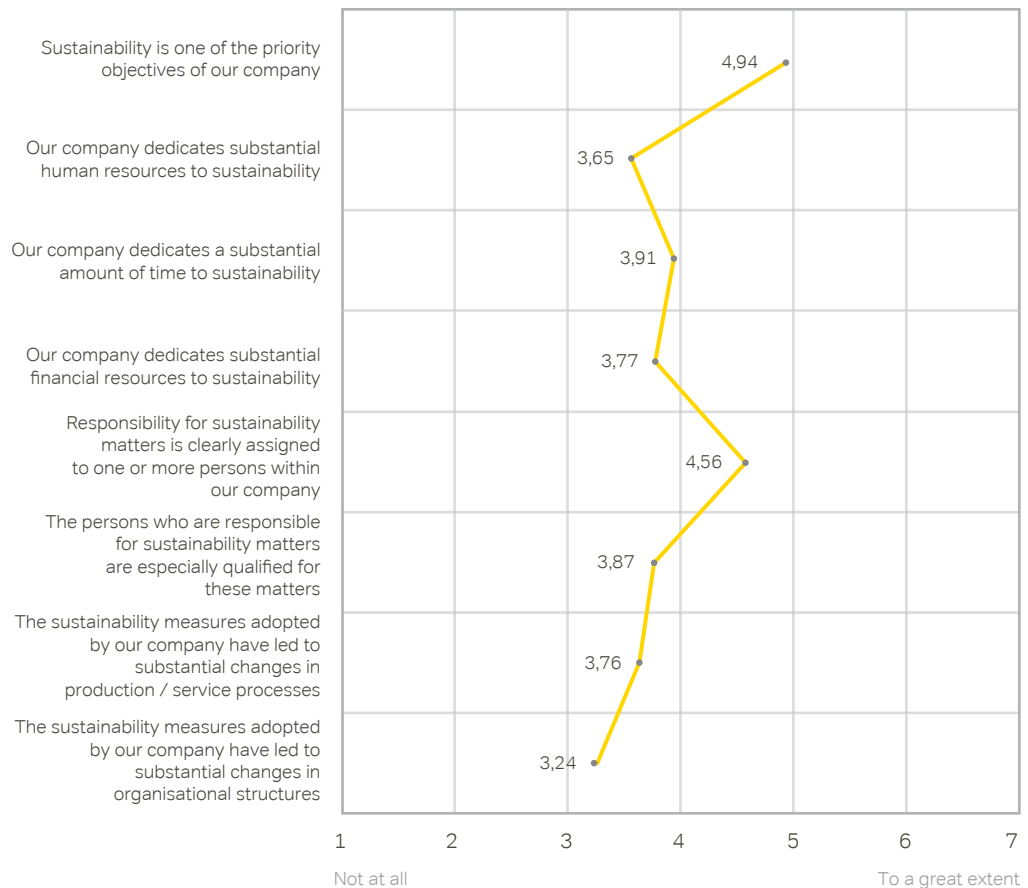


Figure 5: General Sustainability Orientation

Evaluating the average value of the first group of questions yielded one remarkable result. 63% stated that sustainability was one of the priority objectives of their company, meaning that sustainability is considered to be important for companies across all different industries. This strategic notion of sustainability is underpinned by the position

of participants. The fact that more than two-thirds of the participants have senior- or middle-management positions supports the idea that companies regard sustainability as a strategic objective rather than a simple, short-term operative measure.

Once having set sustainability as a strategic goal, organisations and their structures need to be prepared for the actual implementation as the next logical step. However, the questions which dealt with the dedication of human resources, time and financial resources to sustainability showed that sustainability is still regarded more as an ambition than a concept worth spending resources on. Only 30%, 41% and 36% respectively indicated that they dedicate each of the resources to a great extent. This implies that companies have recognised the importance of sustainability, but are not yet willing to devote substantial resources to it.

Nonetheless, the subject's importance is likely to increase over the next three years. Participants were asked to specify the range of the annual budget dedicated to sustainability – which yielded the result that more than 25% of the participants already dedicate more than 3% of their annual budget to sustainability. This further characterises the topic as highly important. Nevertheless, when the interviewees were asked how likely it was that the annual budget would change within the next three years, the answers were astonishing: 68% stated that the budget would increase, while only 1% believed it would decrease. If more than two-thirds of the participants believe that expenditures on sustainability will change, then the topic's importance in general is more than likely to increase in the same manner.

An analysis of the answers to the second block of questions illustrates more or less the same issue. More than half of the participants (56%) have deployed employees who are responsible for sustainability. Thus, the allocation of responsibilities is very clear. This emphasises once again the topic's importance: If dedicated staff is assigned to deal with sustainability, it is not simply approached from the sidelines, as the arduous task mentioned earlier. It has also a signalling effect for the outside. Outsiders have a contact person and can thus assume that sustainability matters are being taken care of. Again, this appears to be an ad-hoc solution since merely 41% stated that the appointed employees were qualified for the assigned responsibility and that the effect on production or service processes and organisational structures was comparatively low, displaying participant shares of 35% and 20% respectively. One explanation for the described observation is the innovativeness of the concept, implying that companies are still going through a process of implementation, adjustment and organisational learning. The concept is too new to have led to structural effects in the majority of companies. Firms are not yet mature enough to understand the most successful form of putting it into practice. The effects mentioned above are significantly enhanced when drawing a distinction between top- and low-performers. Successful companies outperform the low-performers both in terms of sustainability strategy and sustainability organisation. This can be seen in Figure 6. For instance, the dedication of human, financial and time resources to

sustainability shows an average of “5.60” among top-performers, whereas low-performing companies show values ranging between “2.33” and “2.44”. In other words: Low-performers devote less than half as much attention and resources to sustainability as top-performers do. This becomes a recurring theme as it is not only reflected in the resource allocation but also in the corporate strategy and internal organisation on how to approach sustainability as a corporate matter. It can thus be inferred that sustainability is in fact pivotal for top-performers but not yet fully on the agenda of low-performers.



Figure 6: Top- and Low-Performers – General Sustainability Orientation

## SPOTLIGHT ON LOGISTICS

The comparison between logistics and non-logistics companies does not expose tremendous differences aside from the fact that non-logistics companies seem to value sustainability topics slightly more than logistics companies do, and are also slightly more successful in terms of implementation. For instance, the qualification of employees who are responsible for sustainability shows an average of “4.14” for non-logistics companies and an average of “3.58” for logistics companies. To illustrate the implementation the example of process changes serves the purpose well. Non-logistics companies answered with an average of “4.07” that sustainability impacted the design of company processes, whereas logistics companies displayed a comparatively lower value of “3.39”. What seems at first sight as a dull or rather disappointing result is in fact remarkable. The logistics and transportation sector is far away from the end consumer. In most cases, the end consumer does not have any contact with the logistics provider that is responsible for delivering the purchased product. Ergo, due to this absence of direct contact, the end consumer is likely to give their feedback (of a multifaceted nature) to the actual producer of the product, who is therefore the centre of the market pressure. Against this background, the results in the logistics sector suddenly become salient: Despite the apparent absence of pressure from the end consumer and the subsequent lack of sales-promotional marketing possibilities of sustainability, the logistics and transportation sector does not lag behind in terms of sustainability and dedicates as much effort to sustainability as other industries do.

## 4 SUSTAINABILITY DRIVERS

---

The importance of sustainability as a fundamental truth has been irrefutably confirmed in the previous section. Across all industries, with or without a special focus on logistics, covering top- and low-performers and across a diverse set of corporate functions – the pursuit of sustainability is vital to a company that wants to stay competitive, and it is indispensable for a modern strategy setup.

Yet, as the importance of sustainability has been established, the question arises where the sustainability notion originated. This study provides the corresponding response. The answer to what can influence corporate sustainability goes hand in hand with the answer to what or who influences corporations.

Since the early 1980s the stakeholder approach, which goes beyond a pure shareholder value focus, has been promoted and has settled into managers' minds. In their conduct of business, firms need to take into account every interest group that affects them and that can be affected by them. Hence, sustainability can be driven by customers, governments, company leadership, competitors, investors, suppliers, employees and the general public.

### 4.1 CUSTOMERS

Without any demand, there is no supply, i.e. no business case. This is the simple formula companies follow. Ergo, the demand, i.e. the customer, is at the centre of attention. With regards to sustainability, there are four main issues under scrutiny: the actual demand for sustainable products and services, the customers' willingness to pay for them, the probability of customers' switching to competitors if such products are not offered, and, finally, the company's reputation in sustainability matters.

In the cross-section evaluation it becomes apparent that sustainability is as of now mostly driven by the need to increase reputation. Customer demand may be important but it is by no means as decisive as reputation is: 53% of the participants perceive customer demand for sustainable products and services as relevant, whereas 62% indicated that the ability to earn customer goodwill with sustainability is important. The question springs to mind whether the discussion on sustainability is quite literally misled and thus misconceived by companies: Are promotional activities and marketing really more important than the offering of actually sustainable products?

Another aspect of the questionnaire might contribute to the answer of this question: According to the study's participants, the customers' willingness to pay for sustainable products and services is not an influential driver of sustainability, as only 31% of the participants valued it to be important. This can be interpreted from two perspectives. Either firms act in their striving for sustainability upon voluntary initiative, intrinsically motivated, and hazard the consequences even if their customers are not willing to pay a premium. Or – from the customers' point of view – sustainability is simply expected and does not reflect a differentiating feature that would justify a price premium, but is rather a must nowadays. Firms seem to be in a quandary: On the one hand, the risk that competitors are able to attract customers by being superior in terms of sustainability is

considered to be a serious threat by 55% of participants. On the other hand, as seen above, customers are not willing to pay more if superior sustainability is in fact achieved. For this reason, customers are overall one of the most powerful drivers for sustainability. Figure 7 shows the answers given with respect to customers as drivers of sustainability.

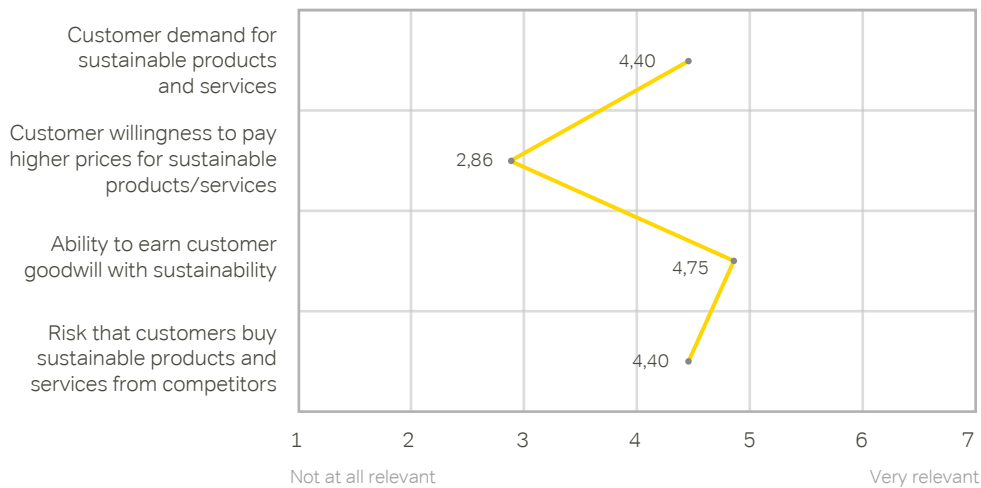


Figure 7: Drivers of Sustainability – Customers

The results clearly show that top-performers feel more pressure from their customers than low-performers do. For all the questions regarding customers as drivers for sustainability, top-performers gave higher values than low-performers did. However, there is a congruence concerning the customer's willingness to pay higher prices for sustainable products or services, which both top- and low-performers ranked as being very low.

Customers are becoming ever more demanding. More than 20 years ago, Michael E. Porter (1990) stated that it is the customer that ultimately drives innovation and high quality. Customers want sustainability but do not want to pay a premium in exchange. This presents a formidable challenge, which top-performers have decided to accept. The implementation of the seeming contradiction between more sustainable products and constant prices can yield a sustainable competitive advantage. Top-performers are obviously better capable of generating this competitive advantage because they are able to satisfy customers' (sustainability) needs while simultaneously exploiting advantages arising from sustainability such as higher production and process efficiency. This is a unique capability that distinguishes top-performers from low-performers.

Figure 8 shows the comparison between top- and low-performers with regard to customers as drivers.



Figure 8: Top- and Low-Performers – Customers as Drivers

### SPOTLIGHT ON LOGISTICS

Comparing non-logistics and logistics companies revealed that customer demand plays a greater role for logistics companies, which displayed in their answers an average value of “4.60” in comparison to an average value of “4.15” for non-logistics companies. Logistics companies operate between businesses in the so-called business-to-business (B2B) segment. Manufacturing companies have reached the stage where they transfer the pressure the end customer exerts on them to their logistics providers. Customer corporations often dictate terms of business to their logistics providers or their suppliers. If logistics providers want to continue business with their customers, fulfilling these norms is crucial. Social and environmental aspects have started to become decision criteria for tenders, which forges the bridge to the introduction of this study. The high importance of customer corporations for logistics providers in sustainability matters is explained by the bare necessity to win tenders, which can be achieved by including environmental aspects into the offer. While this is a recent development and far from being blanket coverage, it has certainly gained momentum during the last years.

### 4.2 GOVERNMENTS

Governments are an almost equally important driver for sustainability as customers are. Governments are a proxy for laws and regulations. This makes the given responses from the study’s participants intuitively understandable: For almost all participants,



fulfilling regulations is a self-evident matter of course. 82% consider complying with current sustainability regulations to be highly relevant. It is a different picture, however, when drawing upon future regulations. 55% perceive being better prepared for meeting anticipated sustainability regulations to be important. While 55% is still the majority, it is significantly less of an affirmation than for the previous question.

Figure 9 summarises the cross-sectional answers to questions on governmental pressures towards sustainability.

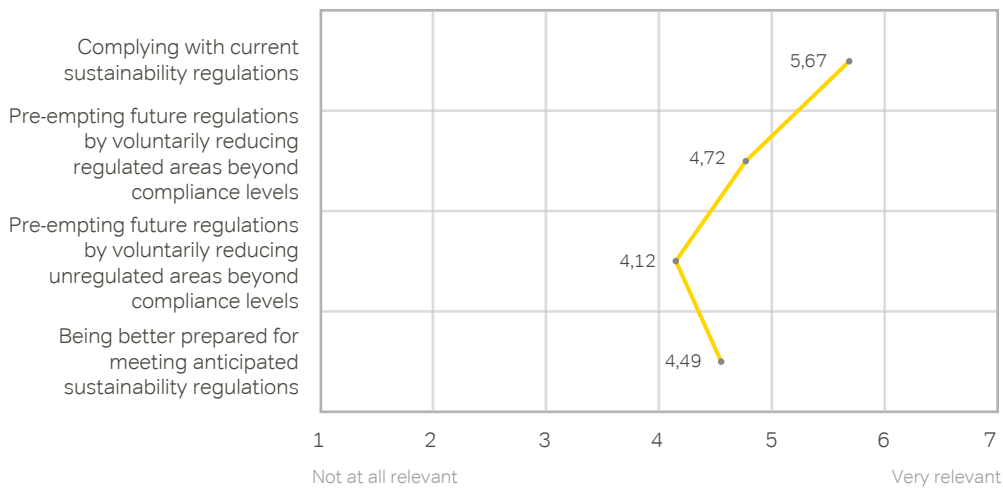


Figure 9: Drivers of Sustainability – Governments

This gap between the attitude towards current and future regulations becomes even more conspicuous when comparing top-performers with low-performers. Both put a high emphasis on compliance with current regulations. However, it is the top-performers that also prepare for future regulations, while the low-performers lag behind. Top-performers have the foresight to anticipate future legislation and prepare their companies for it, while low-performers seem to be preoccupied with the current state of affairs. Implementing new regulations and laws is a challenge for firms: Processes, products and services have to be adapted, often fundamentally changed. Anticipating those changes simply means having time to prepare appropriately.

The gap between an emphasis on the presence by low-performers and a focus on the future by top-performers goes hand in hand with the aforementioned unique capabilities of top-performers, who in the end will be the ones able to generate a long-term competitive advantage.

Figure 10 provides an overview concerning the comparison on top- and low-performing companies for the section on governments.

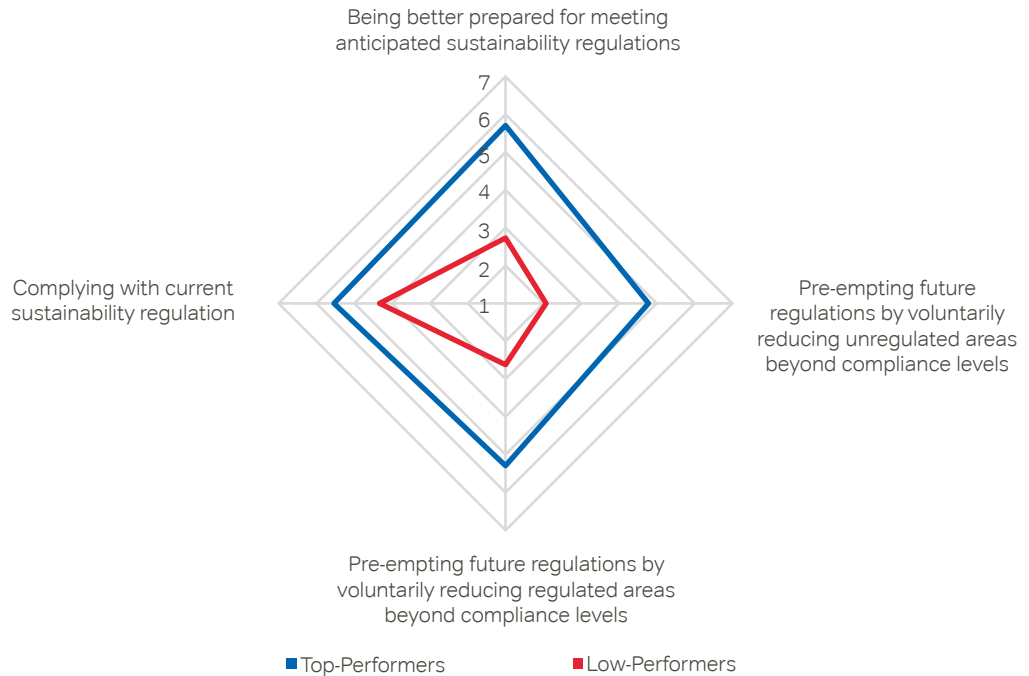


Figure 10: Top- and Low-Performers – Governments

## SPOTLIGHT ON LOGISTICS

The comparison between logistics and non-logistics companies shows that compliance seems to be a more important issue for logistics enterprises. Representatives from logistics companies answered the question of compliance with an average of “6.00”, whereas non-logistics companies displayed an average of “5.43”. This result is not surprising if one is familiar with the vast amount of regulations controlling the logistics and transportation sector. The range starts with national and international environmental laws and emission guidelines, continues with safety and security measures and ends with street usage charges and bio fuel subsidies. The sector has always been subject to strict regulations, which are certain to intensify even further, and thus has long been used to treating them as one of the most important drivers for sustainability.

### 4.3 COMPANY LEADERSHIP

The third important driver for sustainability in companies is company leadership. Here again, a discrepancy becomes obvious. While company leaders express their dedication to sustainability the actual measures needed to put this dedication into practice are not always taken. The fact that company leadership feels a strong moral responsibility for sustainability is important for 72% of the participants. However, only 35% of the participants consider the fact that company leadership changes the internal structure

to attain sustainability objectives to be relevant. The previously mentioned issue that ambitions to conduct business in a sustainable way are high, whereas the implementation is still improvable, is therefore highlighted again.

Figure 11 shows the five average values of answers given in the section on company leadership and management as drivers of sustainability.

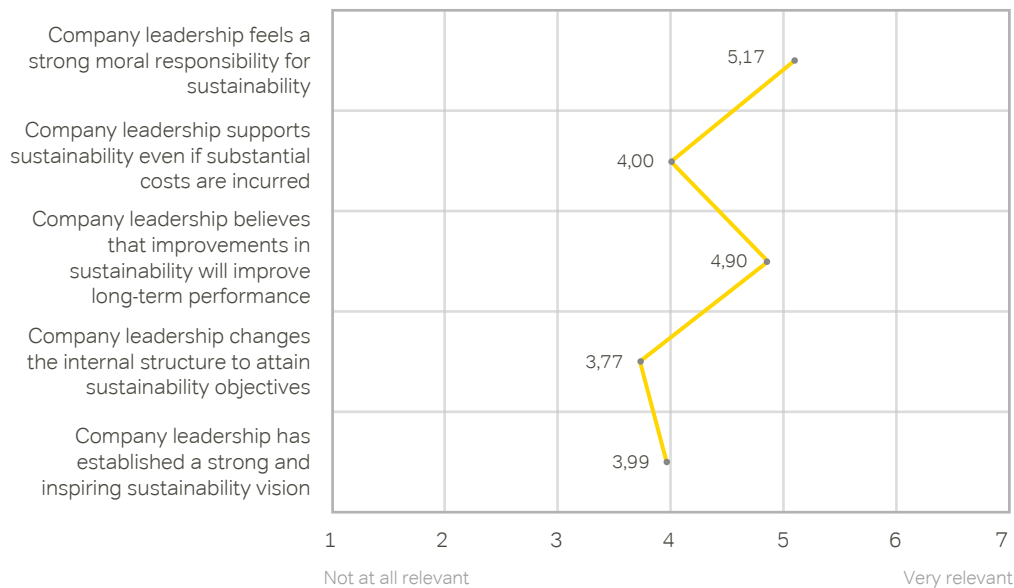


Figure 11: Drivers of Sustainability – Company Leadership/ Management

Whereas for top- as well as for low-performing companies a strong moral responsibility of company leadership is of high importance, the implementation of this responsibility shows a vast gap. In almost all top-performing companies, the management has established a strong and inspiring sustainability vision. However, in low-performing companies such a sustainability vision seems to be non-existent. Another difference is even more striking: Company leadership in top-performing firms is obviously prepared to spend financial resources on sustainability (“company leadership supports sustainability even if substantial costs are incurred”), whereas management in low-performing companies seems to flinch from the very thought of it. In congruence with the results on governmental pressures, low-performers do fulfil the immediate, imminent requirements but company leadership of these low-performers seems to wince at the idea of spending more money than absolutely necessary and fail to see the long-term consequences of restricting the budget on sustainability.

Figure 12 shows the comparison between top- and low-performing companies with respect to company leadership as a driver for sustainability.

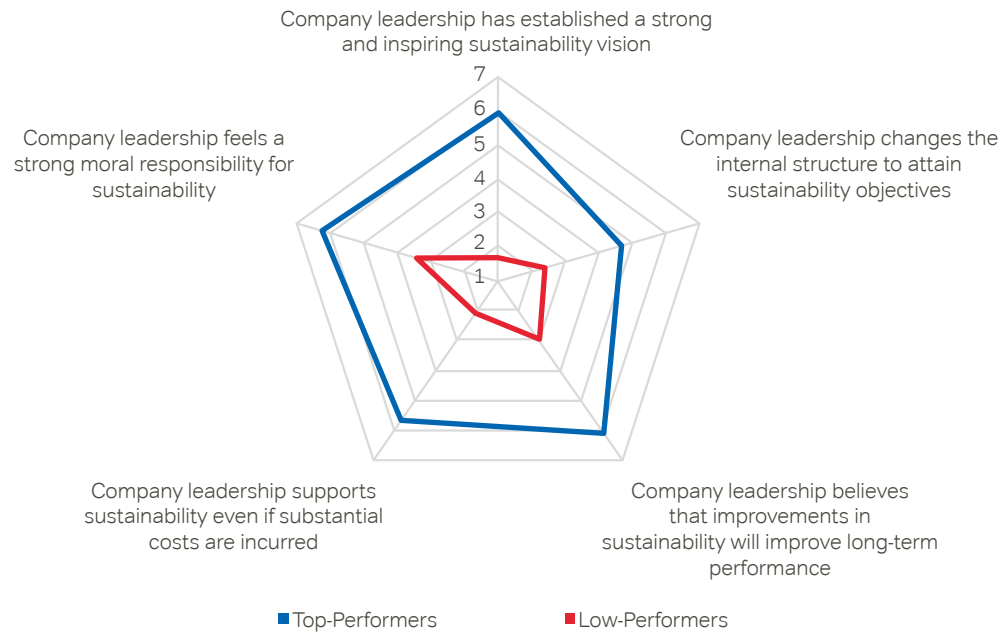


Figure 12: Top- and Low-Performers – Company Leadership/Management

#### 4.4 GENERAL PUBLIC

Companies do not seem to be attuned to the risk that a possible negligence of sustainability matters poses. This becomes apparent in the analysis of the general public's influence on sustainability. Companies may not be aware of the risks that arise from boycotts initiated by the general public. The possibility of preventing boycotts or other adverse actions concerning sustainability was regarded by only 29% as important. Still, it seems to be all about reputation: The establishment of such as a sustainable company apparently turns out to be of high importance. The ability to earn public recognition with sustainability and the promotion of the image as good corporate citizens were valued as highly relevant by 52% and 55% respectively. This shows that companies are as-of-now not necessarily afraid of the negative effects an unsustainable business conduct can bring, but rather try to use sustainability as a means to increase reputation and thus bind existing customers and attract new ones.

Figure 13 summarises the results on the general public's attention.

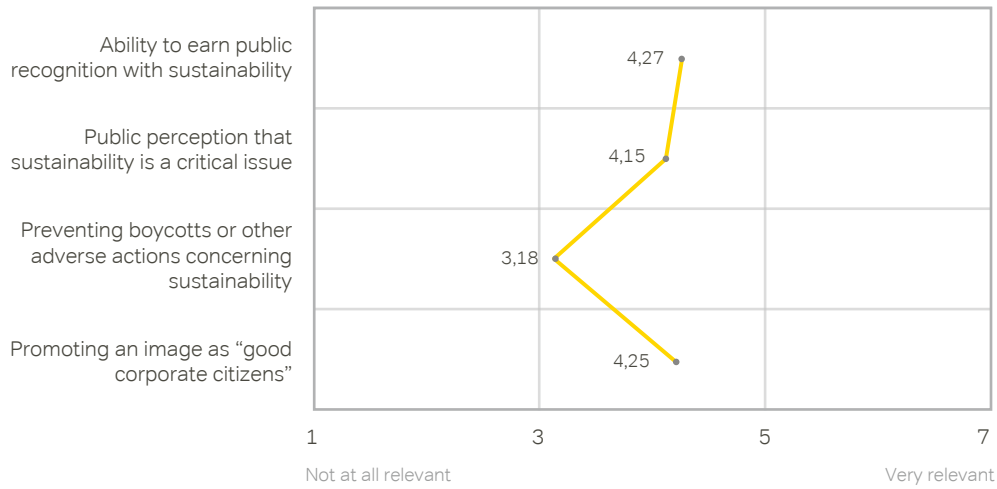


Figure 13: Drivers of Sustainability – General Public

Figure 14 shows the comparison between top- and low-performers concerning their attitude towards the general public.

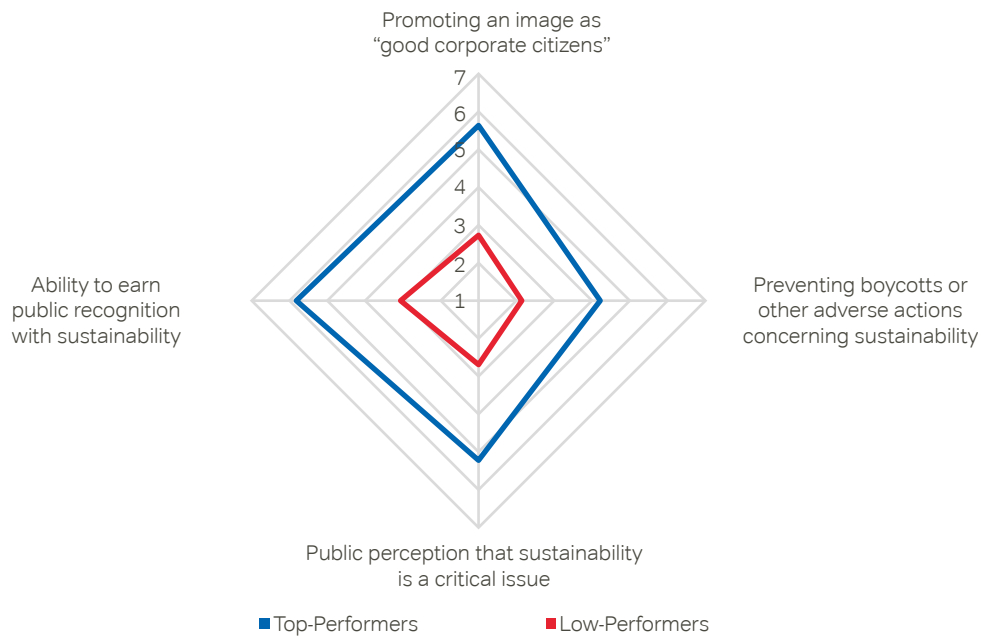


Figure 14: Top- and Low-Performers – General Public

## SPOTLIGHT ON LOGISTICS

The general public is for logistics companies more important than for non-logistics firms. Logistics companies answered the questions relating to this topic with an average value of “4.36” and non-logistics companies with an average value of “3.89”. This result is symbolic of the discussion on proactivity versus reactivity. It is quite easy for the general public to make logistics companies the scapegoat for environmental pollution due to the very nature of their business. If a truck of a randomly chosen logistics company drives by, one can literally feel the air emissions caused by it. While the average consumer might not be aware of the added value that logistics companies contribute to all purchased products, he or she certainly is aware of the environmental effect an increased transportation volume has. This explains why logistics companies feel more pressure from the general public than other companies do.

### 4.5 COMPETITORS

Companies tend to see sustainability as a means for differentiation rather than as a necessity dictated by their competitors. Only one-fifth (20%) of the participants stated that competitors engage in sustainability and their companies understand that they must do the same. In comparison, almost one-third (32%) appreciated the fact that competitors do not engage in sustainability and their companies perceive this as an opportunity for differentiation. The difference indicates that the trend is rather to use sustainability to overcome competitors than to just perceive it as a current obligation in the particular competitive environment. This statement is underpinned by the fact that 50% considered the statement “competitors do engage in sustainability but our company is seeking to stay ahead” to be important.

Increased competitive rivalry can act as a source of competitive advantage since in a very competitive environment companies feel a greater urge to act and to create a sustainable competitive advantage. Companies do not engage in sustainability because that is what everyone else is doing but because they spot a competitive advantage on the horizon. In a certain sense, competitors do play a role: It is not important what they do, but rather what they do not do. If a firm does not pursue a sustainability strategy, then competitors might use that as an opportunity for differentiation.

This is a conclusion that, above all, the top-performers have reached. Top- and low-performers mostly agree about the topic of neglecting the efforts of competitors but only top-performers take the competitors' non-pursuit of sustainability as an opportunity for differentiation. In contrast, focusing on sustainability to gain a competitive advantage over competitors is a concept that low-performing companies are not able to embrace. It becomes apparent that advanced ideas, such as the utilisation of sustainability to stay ahead of the competition, cannot be implemented by all companies and thus contribute to the distinction between low- and top-performing companies.

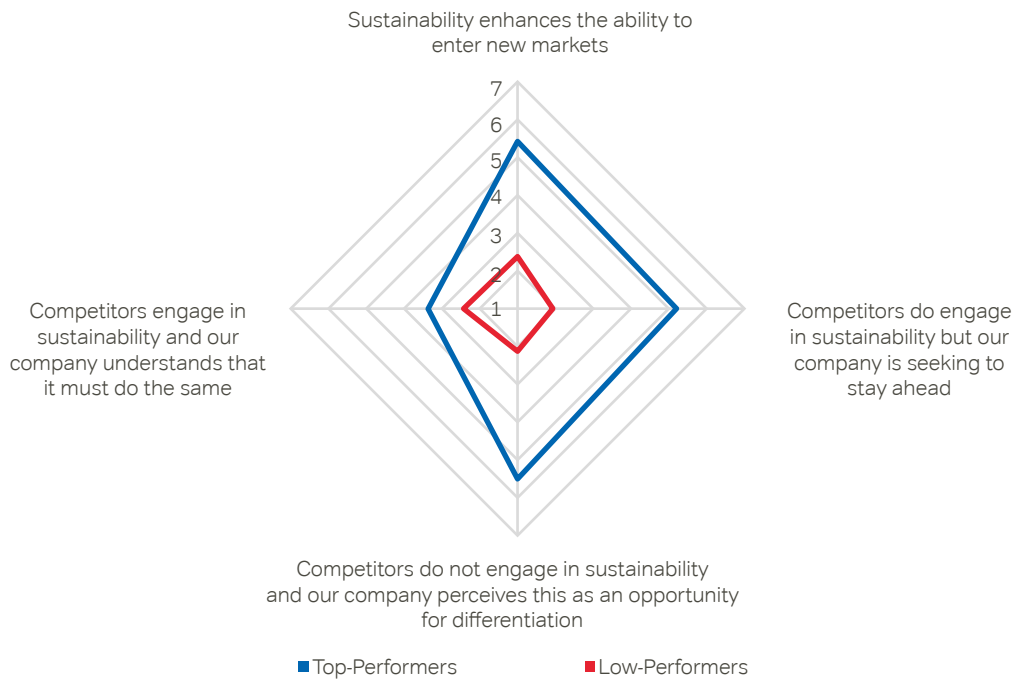


Figure 15: Top- and Low-Performers – Competitors

#### 4.6 INVESTORS

Investors do not seem to influence a company’s dedication to sustainability. This fact is based on the participants’ answers. While sustainability has become a differentiation opportunity on consumer markets, it seems to have no impact on financial markets. Neither lenders nor owners or any other type of investors consider sustainability as a feature that changes a company’s market value – according to the study’s participants. This might be short-sighted and another indicator for risk negligence. If an environmental scandal is to hit a company – and many well-known corporate examples spring to mind immediately – the public attitude will turn against the firm and even worse, the customers’ attitude as well. This taken together can significantly lower the market value of any given firm. Hence, sustainability ought to play a more prominent role in the relationship with investors.

#### 4.7 EMPLOYEES

When participants were asked about employees as drivers for sustainability, the reputational aspect emerged once again. 44% of the interviewees considered the fact that being a sustainable organisation attracts high-quality employees to be important. Sustainability does not only work in favour of a positive reputation among customers but also among high-skilled staff or employees.

However, employee productivity gains from engaging in sustainability seem to be not directly visible – only indirectly. The statement that being a sustainable organisation increases employee productivity is considered by more than one-third (37%) of the participants to be relevant, but what is even more striking is that 51% of the participants

feel that being a sustainable organisation motivates employees. Higher motivation can translate into increased productivity, so while the directly “visible” productivity does not seem to be a driver, the indirectly “visible” one, namely the potential for altering motivation does. Figure 16 shows the average values of the answers to all four questions concerning employees and sustainability.

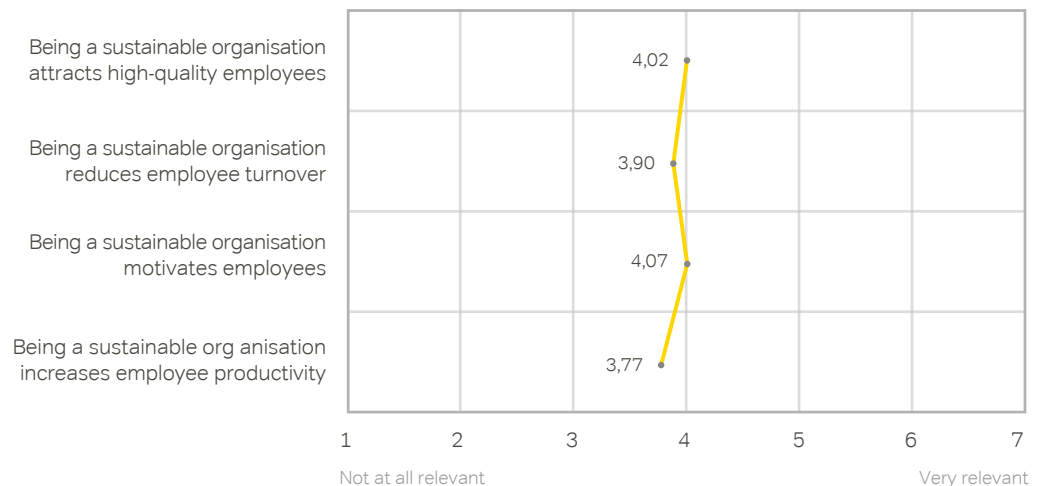


Figure 16: Drivers of Sustainability – Employees

### SPOTLIGHT ON LOGISTICS

In logistics companies, employees take on a much weaker role as drivers for sustainability. In the logistics and transportation sector employees do not seem to influence the decision whether or not to pursue sustainability as a strategic goal. This can be explained by the kind of workforce that is predominant in the sector. Many logistics companies make use of temporary employment agencies, i.e. they do not give out their own contracts but rather hire temporary workers through such agencies. This gives logistics companies, which act in highly competitive and volatile markets, the opportunity to react flexibly to changes in market conditions – as seen in the economic crisis in 2008/2009, when thousands of temporary workers were let go (Astheimer, 2009; Heiny et al., 2010). This has two consequences on employee retention: Firstly, logistics companies face a higher turnover rate than other industries. Secondly, staff loyalty is hard to find as the ties are literally looser. Taking this into account it is no wonder that logistics companies do not consider employees as drivers for sustainability since the employee influence on the companies’ vision and strategy is more than limited.

### 4.8 SUPPLIERS

The picture for suppliers is similar to the one for investors: The low average values are eye-catching. Not one out of four questions was answered with an average above “3” indicating that suppliers are not significant drivers of sustainability for firms. This result



is understood intuitively as the causal chain works actually the other way round. Not suppliers exert pressure on their customer firms to be sustainable but customer firms exert pressure on their suppliers to fulfil social and environmental norms. This absolutely matches the study's results regarding customers or customer firms respectively as drivers for sustainability.

There is a gap between different groups of stakeholders. Overall, competitors, investors, employees and suppliers play a side role in sustainability. While regarded as modestly important, none of them reaches the ranks of customers, governments, company leadership or the general public. As astonishing as it might be, as drivers they are only secondary.

#### 4.9 CHANGES IN DRIVERS

So far, the study has been able to draw an accurate image of the status quo of sustainability drivers. Now, the topic is taken one step further. As an outlook into the future, participants were asked to evaluate the change in importance of all eight stakeholder groups.

The results are an extreme example of the current state at hand: The stakeholders that are important at the moment will become even more vital to companies' sustainability pursuit in the future and those negligible now will stay in that state or will even vanish into oblivion – to put it radically.

As the analysis of suppliers already suggested, as a stakeholder group they have the smallest increase in importance. Less than half (43%) of the participants believe that suppliers will become somewhat more important.

In comparison, 87% of participants predicted that customers will become more important. The second most significant change is related to company leadership pushing towards more sustainable operations. 75% predicted that the importance of company management in terms of sustainability would increase in the future.

Figure 17 provides the averages of answers regarding all eight stakeholder groups.

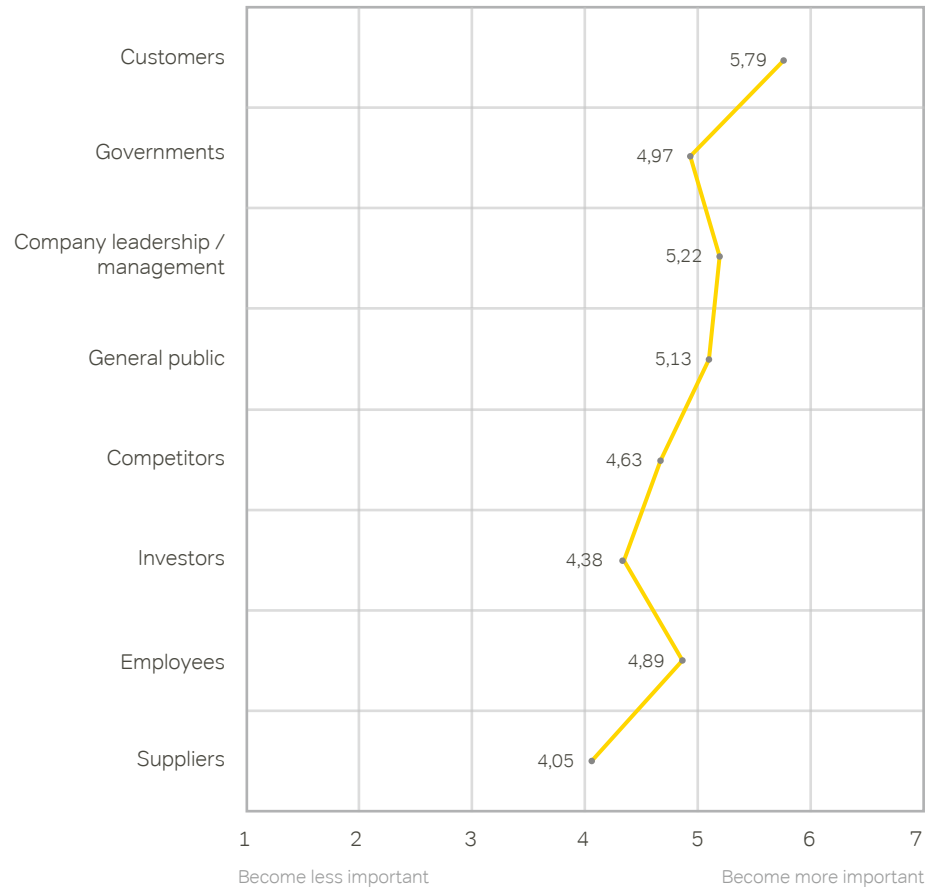


Figure 17: Changes in Sustainability – Drivers in the Next 3 Years

The top- and low-performer comparison clearly shows the differences between the two. While the estimates of changes in importance for investors, competitors, company leadership and the general public are nearly equal for top- and low-performers, the difference between average values provided for suppliers is eye-catching. This validates the statement that the future “winners” are the companies which take a holistic approach and take the whole supply chain into account. Obviously, collaborating with suppliers is a prerequisite. Top-performing companies realise the necessity to react and value the change in importance of suppliers with an average of “5.30”. In comparison, low-performing companies seem to miss this trend and provide an average of “3.56”. Furthermore, top-performing companies value the change of importance of employees more than low-performing companies do. Top-performing companies responded with a relatively high average of “5.80”. However, even low-performing companies recognised the importance of attracting and maintaining a strong labour force and value the change in importance with an average of “4.25”.

The strongest increase for both groups can be found in the importance of customers.

Customers, who put an emphasis on sustainable products and services, will be the most influential stakeholder in the future. Top-performers valued the change in importance with an average of “6.60”, which is the highest value in this category. This means that on average almost every single participant of the top-performing companies is convinced that customers will become influential to the highest degree possible over the next three years. The low-performers analysis yielded an average of “5.00”, which is still relatively high. Figure 18 provides an overview of the top- and low-performer comparison.

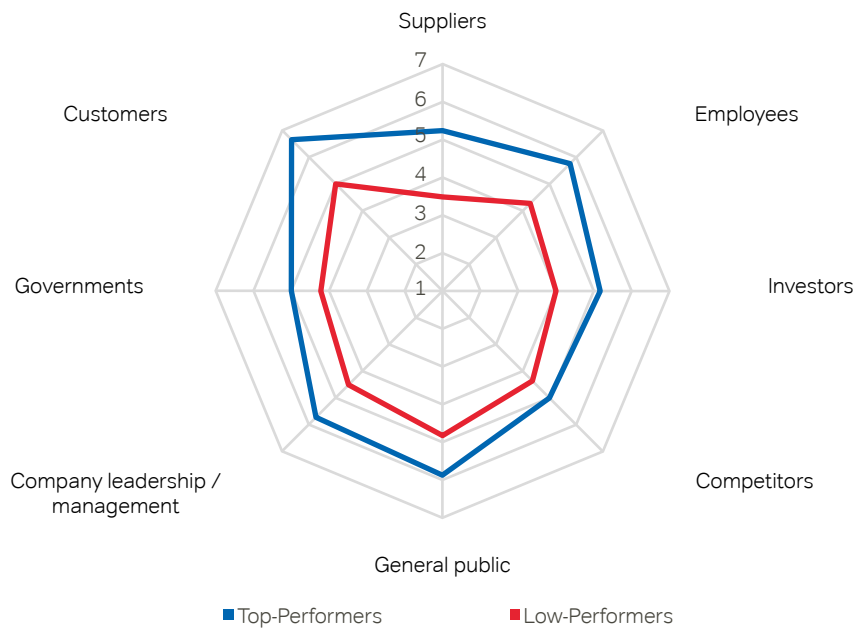


Figure 18: Top- and Low-Performers – Changes in Importance of Drivers

## 5 BARRIERS TO SUSTAINABILITY

---

Barriers to sustainability are manifold. Companies struggle with the dedication of resources and in particular with time commitments. Also, the necessary technology might often not be available. And even if the means, such as appropriate technology are existent, the implementation of sustainable practices can yet be obstructed by other influential barriers. The fifth chapter points out the areas where difficulties occur and highlights why many companies are not able to embrace sustainability in a holistic fashion.

This section is a contrast to the drivers described in the previous section. Three different types of barriers are distinguished: the lack of resources, the lack of opportunities and environmental uncertainty. These superordinate categories each comprise a number of items that will be discussed in detail. The goal of the analysis is to clearly state which barriers are the most impeding for the development of sustainable strategy and practices.

### 5.1 LACK OF RESOURCES

The first block of questions dealt with problems in resource availability for sustainability. The underlying hypothesis was that a lack of specific resources might impede the implementation of sustainability. First, participants were asked to rate the degree to which operational cost increases would prevent sustainability. Only 34% of the participating companies judged high operational costs to be important. Thus, among the four questions in this block, higher operational costs played the least important role in sustainability. This is quite remarkable as in the public discussion and perception costs seem to be the impeding factor for nearly all types of changes and innovation. However, when asked, the participants ranked the operational costs of pursuing sustainability as secondary. Nevertheless, the interviewees did not lump all types of costs together: They distinguished between the different natures of expenditures. While operational costs are regarded as secondary, high upfront investments are seen as relevant by 52% of the participants. Thus, the costs of the figurative maintenance of sustainability are not as cumbersome as the initial capital expenditures related to installing sustainability in a company.

The participants' answers also draw a different picture when it comes to more "long-term" resources – compared with "short-term" resources such as operational costs. 60% of the participants consider the necessary commitment of time to be a factor which obstructs more sustainable business practices. A possible implication is that sustainability could be easily implemented in a company if more employees were hired. However, additional human resources are another important barrier to sustainability, which is perceived to be relevant by 47% of the participants.

In conclusion, it can be stated that sustainability is not viewed as an impossible challenge but companies are rather hesitant to dedicate additional resources to it.

Figure 19 shows the average values of the answers concerning a lack of resources.

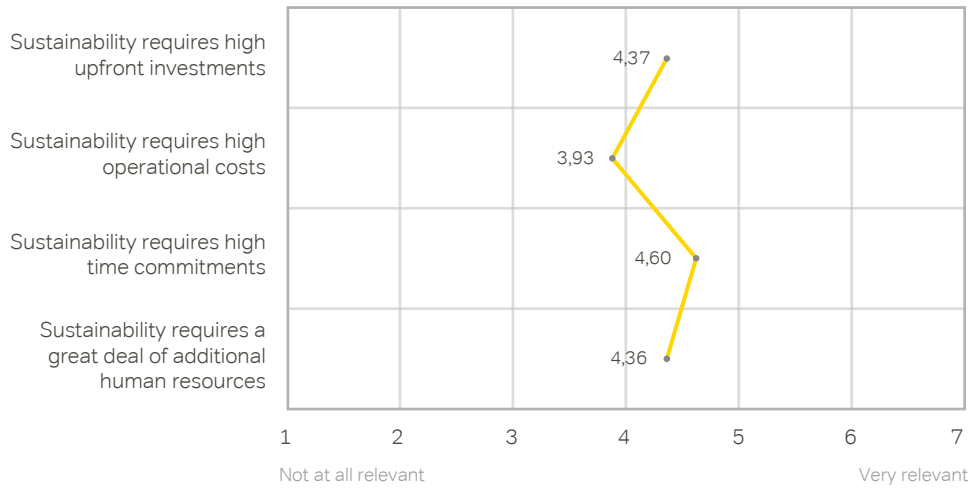


Figure 19: Barriers to Sustainability – Lack of Resources

### SPOTLIGHT ON LOGISTICS

The differences between logistics and non-logistics companies show that particularly high operational costs and high upfront investments are far more important barriers for logistics companies. Non-logistics companies perceive high upfront investments as a relevant barrier with an average of “3.89”, whereas logistics companies value the relevance with “4.80”. For higher operational costs the comparison leads to average values of “3.41” and “4.40”. The difference of a magnitude of nearly “1” out of “7” is striking. In the logistics and transportation sector, coping with CO<sub>2</sub> emissions is the most imminent sustainability challenge. Thus, engaging in sustainability means for logistics companies primarily restructuring transportation fleets and warehouses because these are the factors that cause the highest pollution in the sector. These measures, however, are very technology-intensive and although the technology is to some extent already available, it still entails making large investments. Hence, the associated costs with the pursuit of sustainability are high and thus the barriers are perceived to be higher than in the other, non-logistics sectors.

## 5.2 LACK OF OPPORTUNITIES

The lack of opportunities is the next barrier to sustainability being discussed. The underlying questions are whether firms perceive a long-term benefit from their commitment to sustainability and whether the perceived absence of such value hinders the pursuit of sustainability.

Customers, who are identified to be the most relevant drivers of sustainability in the previous part of the study, are also identified as the main barriers of sustainability. 76% of the participants rated the fact that customers are not willing to pay higher prices for their sustainability efforts to be highly relevant. At first glance, this appears to be a

contradiction. Earlier in the study, in the section on general sustainability orientation, it is stated that customers' willingness to pay is (comparatively) not a relevant factor for firms to pursue sustainability and now, it is identified as a barrier. This is actually quite logical: Customers clearly demand sustainability but are not willing to make a contribution in the form of paying a price premium. Ergo, the firms that already engage in sustainability activities might not have taken a potential price premium as a trigger in the first place but rather other motives such as efficiency gains. However, a larger share of firms would probably pursue sustainability more proactively if a higher price mark-up was in sight, which explains the role of the absence of customers' willingness to pay as a barrier. The customer is considered to have enough purchasing power to demand sustainability without paying a surplus. Hence, it is up to companies to turn sustainability into a business opportunity in order to deal with this inherent contradiction. Regarding technology, there is obviously always room for innovations. However, a lack of technology or insufficient current technology is not perceived as a hindrance since only 25% regard this as a serious barrier.

The lack of commitment of management is seen by 73% of the participants as a barrier and thus imposes a major challenge. A feasible solution is the deployment of a manager only responsible for sustainability related matters. This manager could communicate and process the issue in a more professional way due to the fact that it is their sole responsibility.

Figure 20 provides all averages of answers in this section.

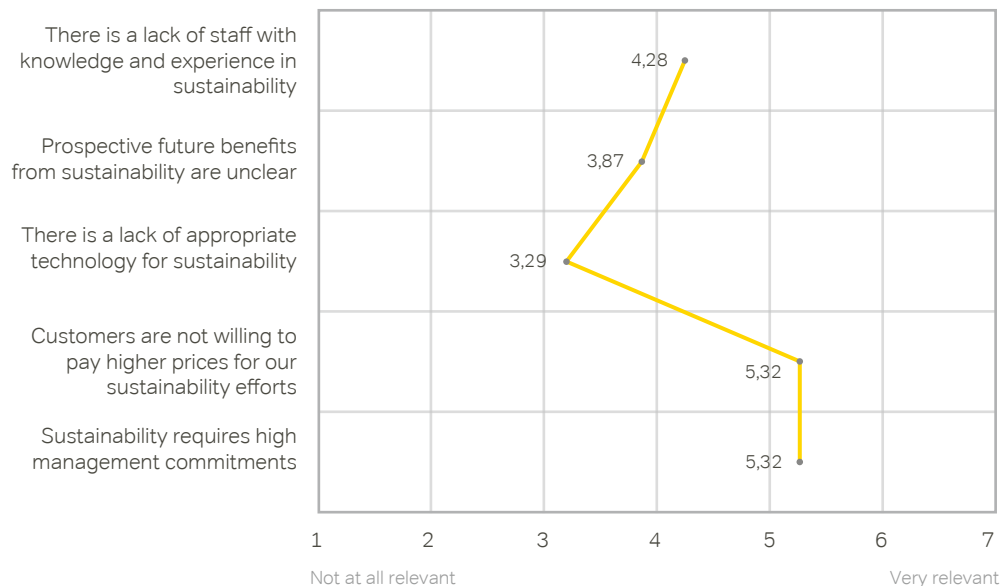


Figure 20: Barriers to Sustainability – Lack of Opportunities

## SPOTLIGHT ON LOGISTICS

Logistics companies judge all five barriers as more relevant than non-logistics companies do. The lack of opportunities does present a major problem for logistics companies in pursuing sustainability. In some cases, it is not the commitment to change that presents a barrier but rather a lack of appropriate technologies. The power supply of sea vessels can be used as an example.

Container vessels have reached an incredible size during the last decade, with the largest of them being able to transport more than 14,000 TEU on one voyage. Accordingly, the power that is needed to maintain the operations of such a vessel is immense as well. So far, container vessels have to generate the power they need by themselves, using their fuel. Bunker oil is the most prevalent type of fuel. The oil itself and of course its usage have severe ecological consequences. While it is already a waste product of the oil industry, processing it creates environmentally damaging residues and emissions.

If container ships use their bunker oil for power generation in a port, the port pollution rises dramatically. This is a problem a large number of harbours face despite stricter regulations on which type of bunker oil is allowed to be used. Furthermore, many city harbours have started to promote the area directly around them as high-end residential neighbourhoods. This development of housing areas is likely to fail if the surrounding area is polluted and full of fumes. The technology that is needed is a way to provide container vessels with land power, i.e. power generated inland and not on the water. This type of power is to a great extent cleaner than the one generated by means of bunker oil. Container ships would consume less fuel and thus produce fewer emissions. However, the technology or rather the necessary infrastructure is only available as a prototype and not yet suitable for the mass market.

### 5.3 ENVIRONMENTAL UNCERTAINTY

The next section focuses on environmental uncertainty as a barrier to sustainability. The more the external environment of a company finds itself in a state of flux, the less predictable the future becomes and the more difficult it is for firms to plan on a long-term basis. Sustainability strategies and activities are such long-term oriented issues and thus, the question arises how the environmental unpredictability influences the striving for sustainability.

The external components that are touched upon here are supply chain processes, the industrial sector the companies operate in, the predicted customer demand and sales. All four questions were answered with averages below "4". Therefore, environmental uncertainty is generally speaking not as relevant as other barriers are. Yet, the rapid change of supply chain processes is considered by 44% to be a serious barrier. The formerly mentioned cooperation with suppliers or rather the lack thereof is a factor closely interlinked to this issue since cooperation supports companies in the preparation of process changes. An explanation for the relatively low relevance of environmental uncertainty is that sustainability is perceived by a majority of companies as a primary objective (63%) as illustrated by the general sustainability questions. Furthermore, sustainability is widely accepted as a means to improve long-term performance (64%). Hence, sustainability can actually be used to overcome environmental uncertainty, which explains the low relevance of environmental uncertainty as a barrier.

Figure 21 provides all the average values to the questions in this section.

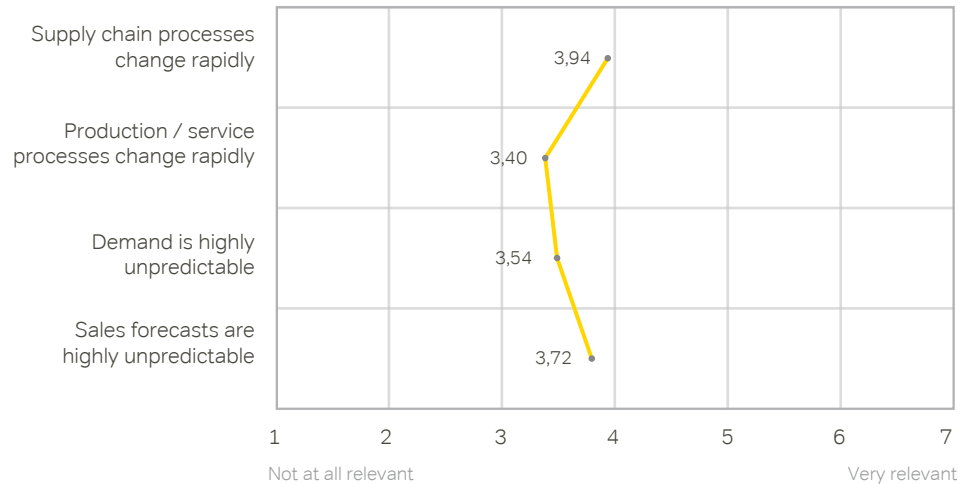


Figure 21: Barriers to Sustainability – Environmental Uncertainty

### SPOTLIGHT ON LOGISTICS

The difference in the perception of barriers between logistics and non-logistics companies is highly pronounced over all four dimensions of the section. For instance, the importance of the statement “supply chain processes change rapidly” is valued by logistics companies with an average of “4.38” and by non-logistics companies with “3.47”.

The cause rests with the nature of the logistics business. Logistics companies are a fundamental element of every supply chain and are almost always directly affected by any type of change in the supply chain. Thus, constantly changing supply chain processes constitute a challenge to the core business.

The market for transportation seems to have taken a tumble and it is questionable whether transportation alone is still profitable enough for logistics companies. In some cases, transportation appears to only pay off in connection with auxiliary services – as performed in the branch of contract logistics. The sector in general is characterised as highly volatile and competitive. So, many companies feel the need to find entirely new business models.

On the other side, the focal firms in the supply chain, producing the end consumer’s product, perceive supply chain processes as one value adding activity among many others. This explains the different perceptions that logistics and non-logistics companies have with regard to environmental uncertainty.

Comparing top- and low-performing organisations for “barriers to sustainability” reverses the scheme of the other comparisons. Until now, low-performers have given lower estimates than top-performers have in their answers to a number of questions. As this section deals with barriers to sustainability, low-performers reach generally speaking higher values than top-performers since barriers impose a greater challenge for low-performing companies. Concerning environmental uncertainty low-performers feel more



threatened than top-performers do. Interaction with customers might give a key hint to the reason for this. Top-performing companies are more often able to seal long-term contracts with their customers and invest resources in creating customer retention and loyalty. While top-performing companies regularly work closely together with the customer and thus have a more or less secure customer base, low-performing companies are apparently not able to bind customers as much and often live on “walk-in customers” on a day to day basis. Their customer base is often unstable and, logically, environmental uncertainty is a higher barrier for low-performers. As low-performers frequently do not seem to know what the next quarter or year will bring, they apparently hesitate to invest in long-term activities such as sustainability for which the payoff day is often not even visible on the horizon. Moreover, top-performing companies are willing to accept increased operational costs to a higher degree, whereas low-performing companies are rather willing to commit time and human resources. Again, the contradiction becomes apparent. While top-performers are prepared to spend financial resources on sustainability they refrain from providing internal human resources or time for it. Hence, top-performing companies would rather rely on external providers to cope with the issue of sustainability, which requires an investment but relieves the time and human resources problems. Figure 22, 23 and 24 provide an overview of all three categories comparing low- and top-performing companies.

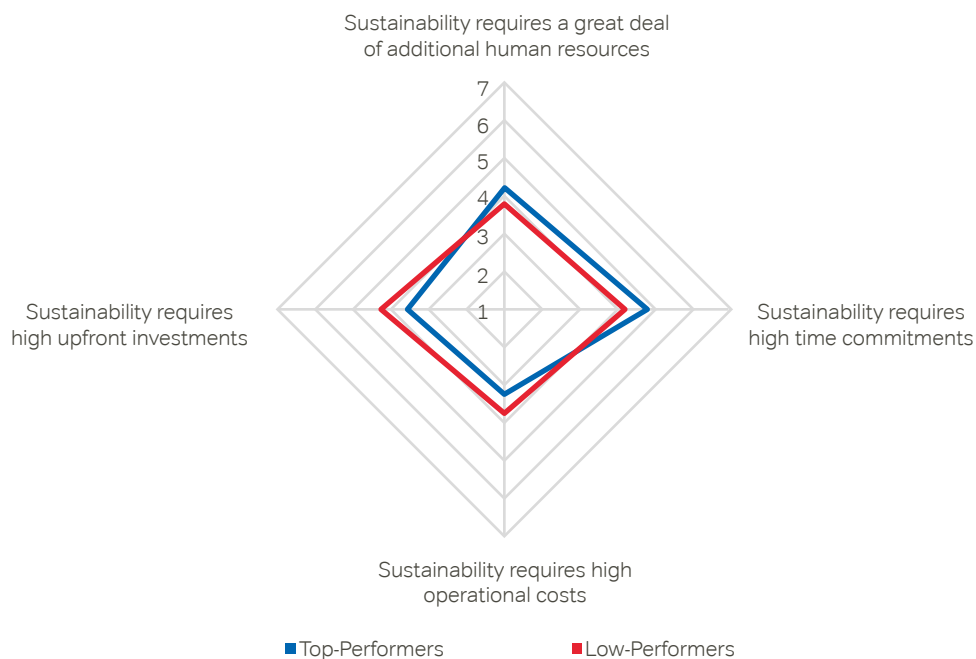


Figure 22: Top- and Low-Performers – Lack of Resources

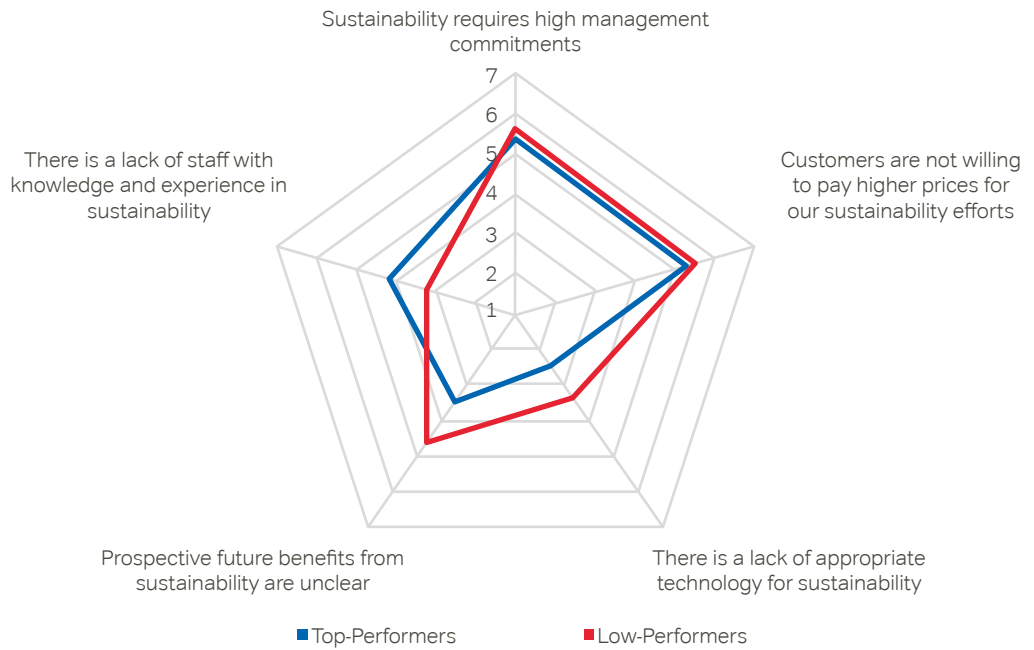


Figure 23: Top- and Low-Performers – Lack of Opportunities

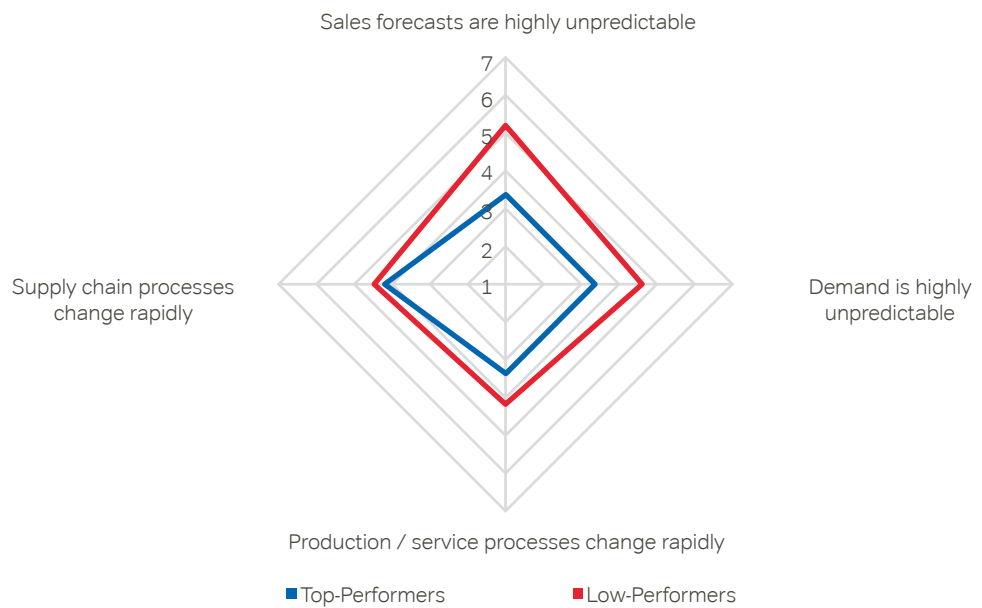


Figure 24: Top- and Low-Performers – Environmental Uncertainty

#### 5.4 CHANGE OF BARRIERS

Finally, participants were asked to indicate the level to which they felt that the three groups of barriers would change over the next three years.

The barrier of lack of resources will become significantly more important, above all the lack of time, human and capital resources. A possible explanation can be the expected

increase in competition. Presumably more companies will compete over a limited amount of resources both in terms of personnel on the labour market as well as financing opportunities on the financial market. This development is likely to restrict the general availability of resources. Hence, the barrier will gain even more importance over the next three years. Although the largest share of participants believe that sustainability will become more important in the future – as seen in the chapter on general sustainability orientation – the growing lack of time resources may impede a stronger commitment. Sustainability is important but according to the study’s participants there is just not enough time to tackle all important strategic issues at once with the same intensity. Figure 25 shows how the participants predicted the three categories of barriers would change over the next three years.

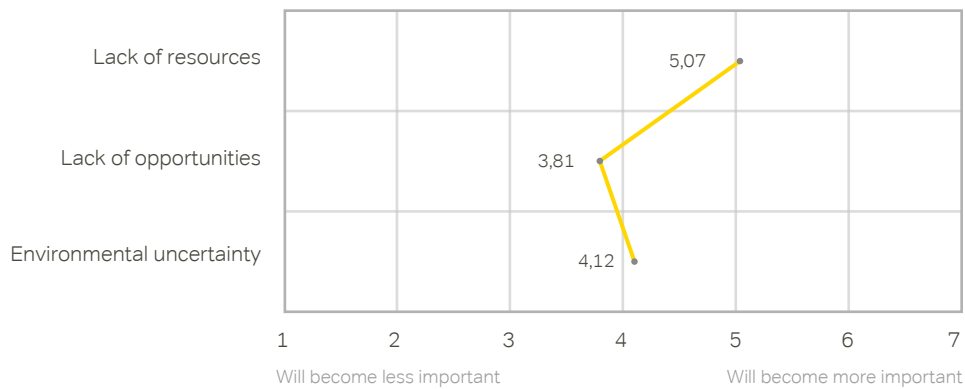


Figure 25: Barriers to Sustainability – Change in the Next 3 Years

## 6 SUSTAINABILITY PRACTICES

---

After analysing drivers and barriers of sustainability it is only logical to elaborate on the actual sustainability practices which are used today. Here, two types of practices are distinguished: social ones which aim at improving people's health, safety and security as well as their development, which is addressed in the section on sustainable development, and ecological ones whose goal it is to reduce and prevent environmental pollution. The latter are addressed in the passages on pollution prevention in production, service delivery and logistics and on product and service redesign. In the fourth part of the questionnaire company representatives were asked to indicate to which extent they engaged in such activities.

Companies already reduce the use of energy and other resources but also focus on reducing emissions and waste. Moreover, new, environmentally friendly technologies such as bio fuel and hybrid power trains are being developed.

While people outside and inside of the company benefit from the ecological practices, in social terms, however, companies seem to differentiate between people inside the company and outsiders. While employees are supported, the development of local communities for instance appears to be of secondary importance.

### 6.1 POLLUTION PREVENTION IN PRODUCTION AND SERVICE DELIVERY

The first section deals with pollution prevention in production and service delivery. The examined corporate activities were reduction of energy, water and material usage and the reduction of wastes and emissions. In general, the answers to the five questions implied that companies do engage highly in activities to prevent pollution. For example, 80% of the participants pursue the reduction of energy consumption to a high extent. It becomes apparent that companies favour activities such as reducing energy particularly because it leads to a win-win situation. Companies do not only reduce their impact on the environment but can simultaneously reduce the overall costs and increase their efficiency. In this sense, reducing waste and material usage are especially appreciated by companies: 65% and 63% of the interviewees respectively engage in these activities to a large extent.

Figure 26 shows the averages provided by participants in this section.

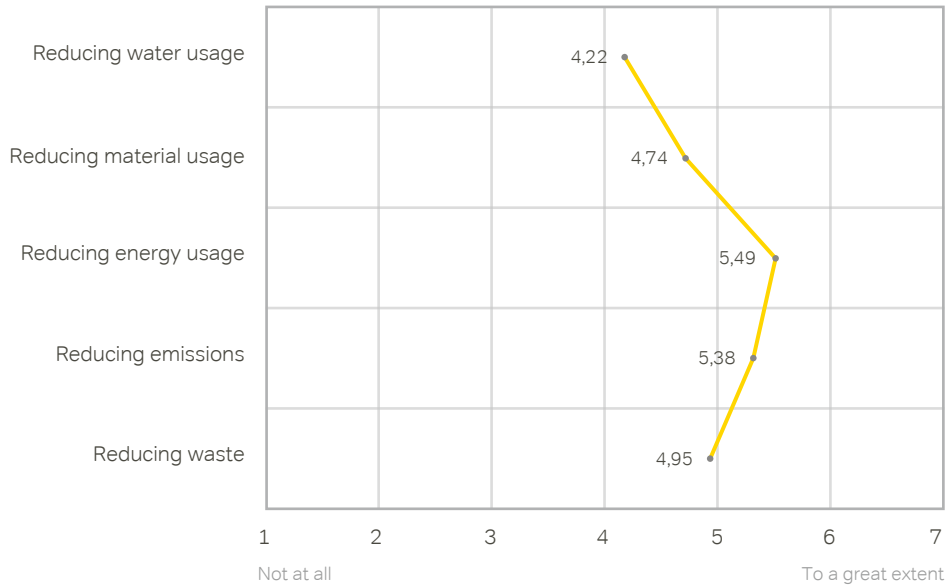


Figure 26: Sustainability Practices – Pollution Prevention in Production and Service Delivery

Comparing top- and low-performing companies clearly indicates that top-performers are willing to engage more intensely in pollution prevention concerning production and service delivery. Across all five dimensions top-performers are more active and try to integrate pollution prevention measures into their business processes.

### SPOTLIGHT ON LOGISTICS

Logistics companies seem not to engage in activities to reduce water usage to the same extent as non-logistics companies do (average of “3.47” compared to “4.89”). But logistics companies are more active when it comes to reducing emissions (“5.44” compared to “5.26”). The explanation can be found in the nature of the participating logistics companies’ operations. The majority of the study’s sample were of road transportation as opposed to air or sea freight businesses. Obviously, the road transportation of goods is likely to require relatively little water – hence it is a relatively unimportant factor.

Transport in general is responsible for 23% of the CO<sub>2</sub> emissions (International Energy Agency, 2009). Naturally, the reduction of emissions is a critical point for logistics companies in terms of pollution prevention, not only because of the responsibility they feel but also because of strict European emissions regulations, which above all apply to road transportation.

Figure 27 shows the comparison of low- and top-performing companies.

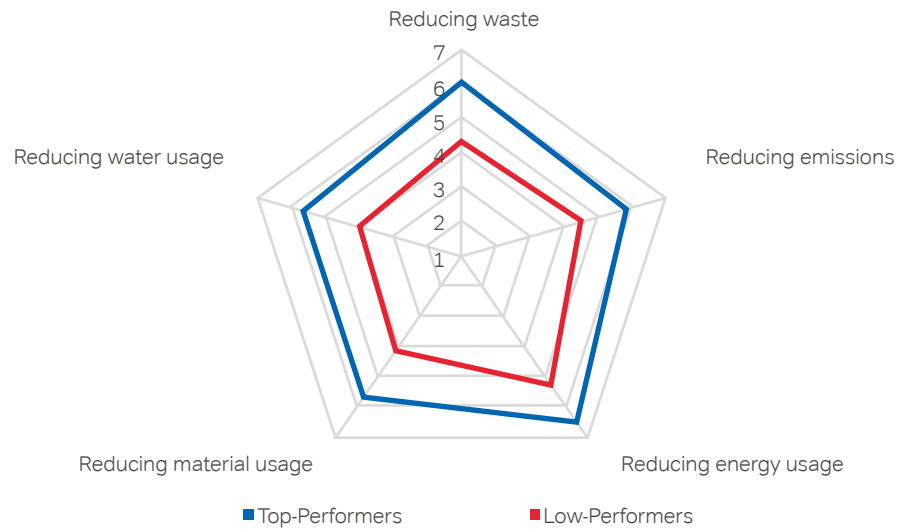


Figure 27: Top- and Low-Performers – Pollution Prevention in Production and Service Delivery

## 6.2 POLLUTION PREVENTION IN LOGISTICS

Logistics activities offer a range of possible pollution prevention measures such as the modernisation of the vehicle fleet, the restructuring of the modes of transportation, ecological driver trainings and the consolidation of shipments.

As identified in the previous chapter, companies do not perceive the lack of technology as a highly relevant barrier. However, the implementation of emission and traffic monitoring systems cannot be widespread, since only 33% of companies stated that they engaged in this practice to a high extent. This result does not come intuitively because most participating companies actually originate from technology-dependent industries such as the automotive or logistics industry and thus ought to be inclined to adapt new technologies. The cause for the non-implementation might be identified in the costs associated with the renewal of technology. This would then be in line with 52% of the participants perceiving high upfront investments as a major barrier of sustainability.

Apparently, companies differentiate between different types of new technology. While the emission and traffic monitoring systems comprise the vanguard of technologies, other innovations such as new vehicle types or power trains have already gained ground and appear to be more common.

Companies rather tend to upgrade existing technology or embrace less costly concepts. Hence, 67% of the participants stated that they pursue the modernisation of their fleet and the consolidation of shipments.

Figure 28 shows the distribution of averages for the practices of pollution prevention in logistics.

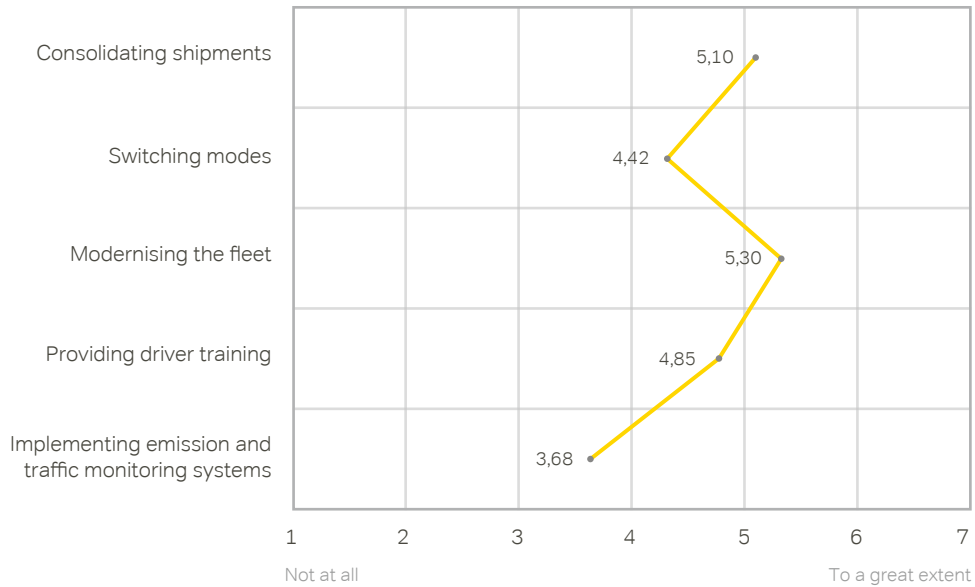


Figure 28: Sustainability Practices – Pollution Prevention in Logistics

The comparison between top- and low-performing companies yields the interesting result that top- as well as low-performing companies rated the implementation of emission and traffic monitoring systems to nearly the same degree. New technology is apparently appreciated by all companies to the same extent. The largest difference between the two groups can be found in the switch of modes of transportation. Again, this is a practice that requires long-term strategic planning and high upfront investments, which are two features top-performers are more likely to exhibit. Low-performers on the other hand and as mentioned earlier in the study probably balk at spending financial resources on sustainability measures. This observation then also applies to modernising the fleet.

### SPOTLIGHT ON LOGISTICS

As the phrasing of the category “pollution prevention in logistics” already indicates, the topics touched upon in this section are substantial for logistics companies. Especially, the provision of driver trainings and the consolidation of shipments are practices that logistics companies most engage in since this can really provide an advantage over competition in terms of efficiency and cost savings. 79% of the participating logistics companies engage in driver training and 64% in the consolidation of shipments. These are at the same time the practices that require the least expenditures, can be implemented at shortest notice and yield results most rapidly.

Figure 29 provides the comparison over all five dimensions.

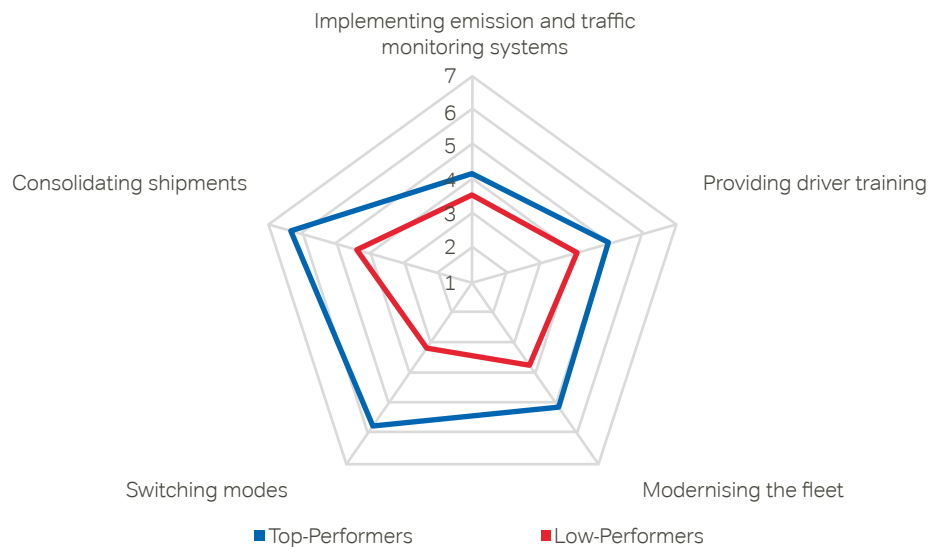


Figure 29: Top- and Low-Performers – Pollution Prevention in Logistics

### 6.3 PRODUCT AND SERVICE REDESIGN

The next section deals with the issues related to product and service redesign, and how to make them more sustainable.

Most remarkable is the fact that only 42% engage in recycling and reuse activities. Redesigning a product or a service in a way that it can be recycled can indicate that a company is on its way to becoming sustainable. In addition, it can be economically beneficial for companies since it significantly reduces their dependence on external resources and saves possible costs for the disposal of product components. Also, the idea of recycling is not a new one and has been on the public mind for over a decade now. Therefore, the low support for the issue of recycling is remarkable. Companies either seem to not yet have recognised this opportunity or they apparently do not perceive it as fully feasible or economically profitable. Maybe the idea of recycling has already been maxed out and offers no further gain for companies. It is highly complex to generate an output which is recyclable to a large extent. Already in the products' blueprints, engineers and designers need to choose the materials which are to be used according to their potential for reuse and to develop a construction which facilitates easy disassembly. The assumption that companies do not consider this as highly feasible is supported by the fact that 58% of the participating companies engage in activities which reduce resource requirements. This is one of the steps which need to be taken before making a product fully reusable.



Figure 30 shows all averages in the section on product and service redesign.

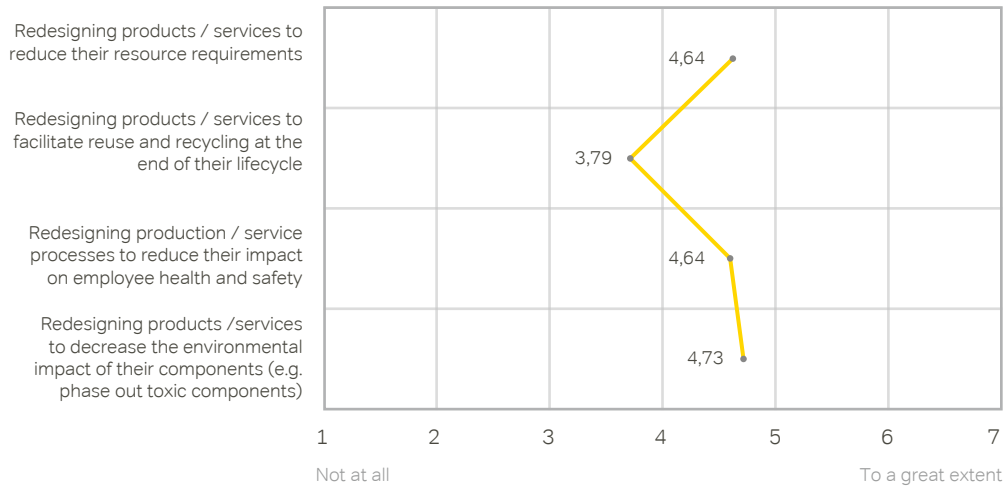


Figure 30: Sustainability Practices – Redesign of Products and Services

The comparison between top- and low-performers yields the result that low-performing companies do not seem to be eager to change the processes in place. The difference is for all four practices regarding redesigning products and services larger than a magnitude of “2” on a scale out of “7”. A possible explanation is that low-performing companies have problems reacting to change. The redesign of products and services does not only require the restructuring of processes and related expenditures but also a change in thinking. If their products were to be changed, some companies might be forced to rethink their entire business model. Low-performers might be more hesitant to do so than top-performers who apparently do not think in static ways but are more likely to be able to adapt to a dynamically changing world.

## SPOTLIGHT ON LOGISTICS

Non-logistics companies are more engaged over all four dimensions of product and service redesign. Interestingly, the redesign of products and services to decrease the environmental impact of components displayed an average of “5.08” for non-logistics and an average of “4.19” for logistics companies. Logistics companies can reduce their impact in this area with regard to emissions – maybe even more “easily” than non-logistics companies can since logistics companies at least can be assumed to know where to start looking. An explanation is that the barrier of high upfront investment might obstruct logistics companies from being more engaged in this area.

According to the study’s participants, logistics companies still seem to have difficulties embracing the idea of a redesign of their products and processes. Possibly due to the nature of the service industry, they feel that the services they offer are in most cases specifically customised to their customers and as such there is little leeway to redesign them if it is not to fulfil a customer’s explicit wish. However, there are quite a few innovative approaches on how to restructure processes to achieve higher sustainability. Practitioners refer to an example that can be found in Wilhelmshaven. The Jade Weser Port is the prestige project of the region. The new deep water harbour which is scheduled to open in 2012 will be the only German port independent of tide and is as such able to process the largest existing container ships.

Due to the project’s magnitude, a tremendously increased volume of transported goods is to be expected, and accordingly, an increased number of containers, which are transported to and from the harbour via roads and railways. Planners and logistics experts have developed ideas for new dispatch procedures: One plan is to have containers processed already inland and not when they have reached the port area. This would entail a shift in container gates away from the port to cities actually disconnected from the sea, where, consequently, containers would not have to compete for slots to be dispatched. The only requisite for this is that after dispatching it, the container content may not be “touched” again until it arrives at its destination. As a logistics expert said, the goal is to smooth the traffic and commodities flow and to avoid congestion. While the construction phase of the port is already very advanced, these plans are still in their infancy. Still, once implemented, the idea is very likely to be successful.

Figure 31 compares top- and low-performers with regard to the redesign of products and services.

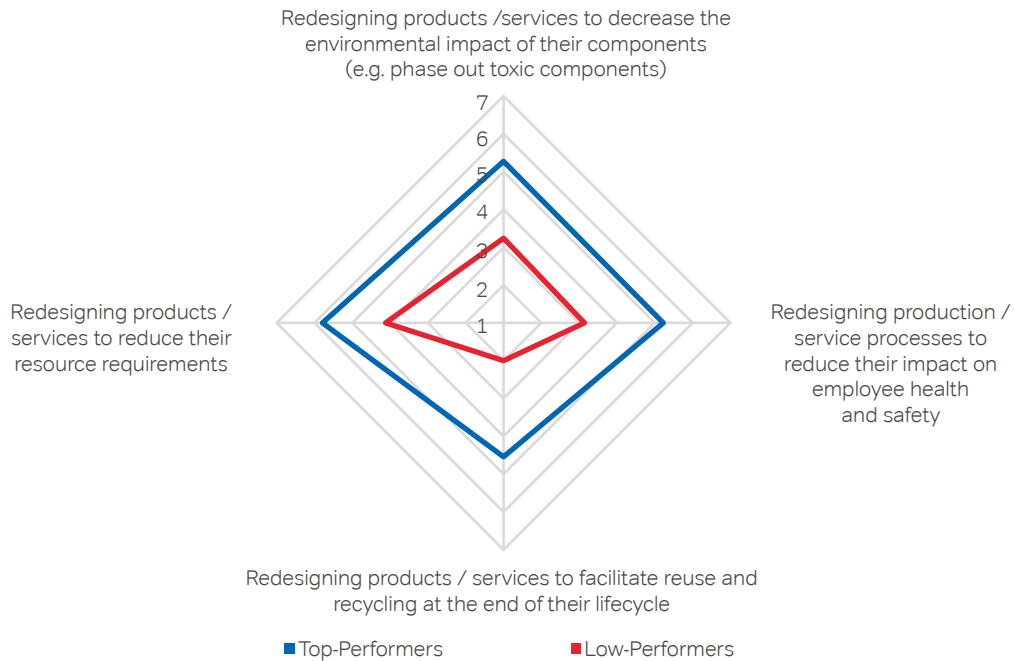


Figure 31: Top- and Low-Performers – Redesign of Products and Services

## 6.4 SUSTAINABLE DEVELOPMENT

The last part of chapter six addresses sustainability development. This refers to employees, local communities and developing countries. This section fortifies the idea that sustainability is a new business model rather than an altruistic concept. Companies seem to put a focus on the development of internal stakeholders as companies are more likely to benefit from a development of their employees than from the development of local communities. To illustrate the notion of this idea, the contribution to the development of local communities is compared to the development of a company’s own employees: 45% of the participants consider the development of people in local communities to be important, while 83% engage in the development of employees. The reason underlying this finding seems to be a matter of perspective and certainty. Fostering employee development is likely to have a comparatively certain, positive impact on the company in foreseeable time. However, investing in the development of people in local communities is likely to only pay off taking a long-term perspective of several years or even decades, and the outcome is influenced by various uncontrollable factors, hence it is volatile.

Figure 32 shows all averages in the section on sustainable development.

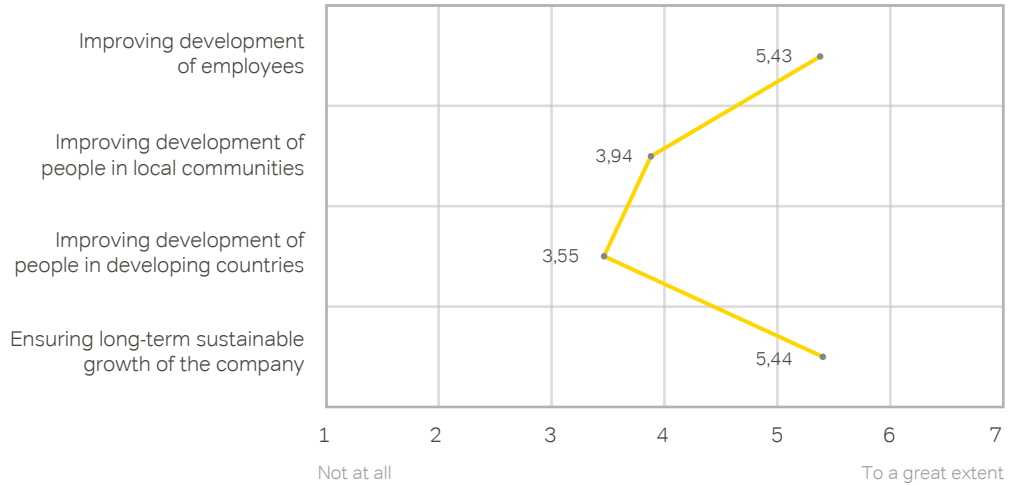


Figure 32: Sustainability Practices – Sustainable Development

Low-performing companies do not seem to value the development of stakeholders, neither company internal nor company external ones. This conclusion is suggested by the overall rates low- and top-performers have indicated on sustainable development. The reason here might be liquidity or financing possibilities. As encountered already on a number of occasions in this study, low-performing companies appear to not have the capacities to make investments that go beyond the bare necessities.

Figure 33 displays the extent to which top- and low-performers differ with respect to sustainable development.

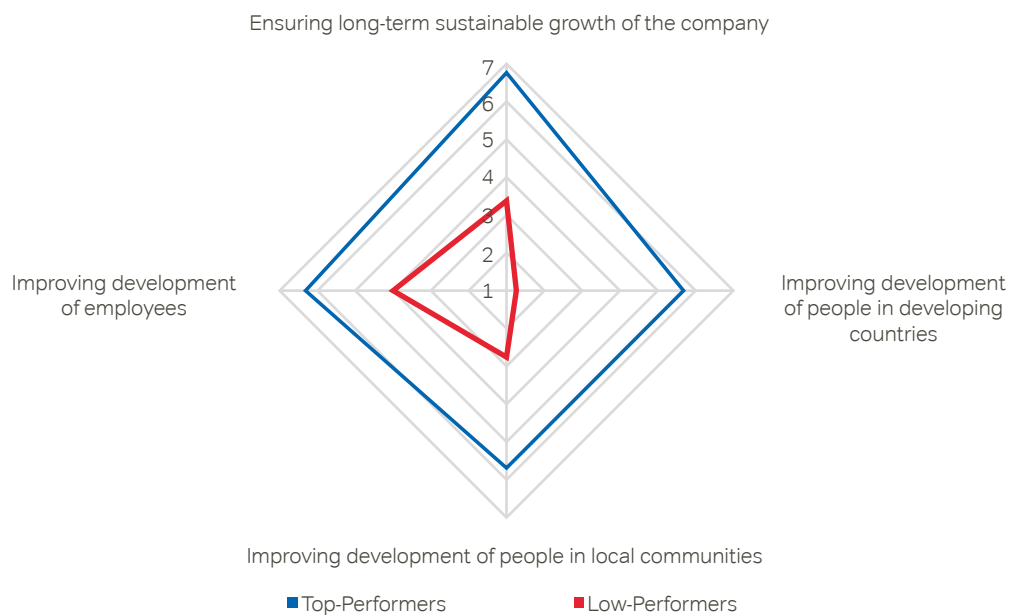


Figure 33: Top- and Low-Performers – Sustainable Development

## SPOTLIGHT ON LOGISTICS

The difference between logistics companies and non-logistics companies leads to the overall conclusion that logistics companies may be far less involved in sustainable development. Many logistics companies seem to have potential for improvement in their collaboration with local communities. Most people would agree that it is not attractive to live next door to a warehouse with trucks going in and out at all times and the corresponding noise and environmental pollution. However, the relationship between logistics companies and local communities goes beyond that. Logistics providers might influence the direct neighbourhood in which they operate to a great extent. On a broader scale, it also includes the cooperation between companies and municipal councils and an aligned course of actions.

Practitioners state an example of the impact logistics may have on the neighbourhood in Bremen. The local freight village is currently being extended to be able to cover the increased flow of goods. On the one hand, the freight village is of great importance as its extension secures the region's competitiveness and as it provides work for a vast number of people. On the other hand, its enlargement also entails an increased number of vehicles using it. In particular, the number of trucks heading for and out of the freight village has risen enormously, which – referring to the example at the beginning – is not likely to thrill every stakeholder, i.e. everyone affected by it. Action groups have been formed and protests have been conducted.

Furthermore, as an expert judges the situation, the accessibility to the freight village is poor. The corresponding infrastructure does not appear to have been augmented to the same extent as the freight village itself. Consequently, motorways and other roads do not seem to be prepared for the volume of vehicles they have to cope with now. A small but growing number of companies are said to already be contemplating moving to another freight village which offers better connectivity.

Also, practitioners find the connection to public means of transportation to be scarce. Ergo, the employees are likely to have difficulties reaching their workplace.

Problems seem to lurk around every corner but many of them could potentially be mitigated through better coordination and collaboration with local councils and the local community.

## 7 STAKEHOLDER INTEGRATION CAPABILITY

---

The seventh chapter deals with the integration of direct and indirect stakeholders into sustainability strategy formulation.

If a corporate sustainability strategy is to be holistic, integrating stakeholders into the strategy formulation seems only natural, as at best every stakeholder will be affected by or even benefit from the strategy. Stakeholders are more likely to back sustainability decisions if they were part of the decision process in the first place.

The questions that arise are whether firms integrate their stakeholders in matters of sustainability at all and who they integrate the most.

According to the study's participants, companies seem to integrate almost all direct stakeholders such as suppliers, employees and customers to a greater extent than indirect ones, such as competitors, academic institutions, national and international governments. The only groups where this picture is reversed are the general public and the investors. The general public – per se an indirect stakeholder – is the third most integrated stakeholder, and investors, originally direct stakeholders, rank among the less strongly integrated stakeholder groups.

Employees are integrated into the strategy formulation process to a slightly higher extent than customers are: 56% of the participants answered that they integrate employees. Although the magnitude of difference between the two groups is not salient, the answers given with respect to customers and the ones given with regard to employees are in fact remarkable: Earlier, the study's participant identified customers to be one of the main drivers of sustainability and employees as less important. Now, these two groups score reversely in the degree of how much companies integrate them into their sustainability strategy formulation. Therefore, although companies feel less pressure from the employees to become more sustainable, they consider them to be important when it comes to sustainability strategy formulation.

It might be worth discussing whether this could be wishful thinking. One must take into account that sustainability was identified before to be of strategic importance by top management. Two-thirds of the interviewees hold a senior- or middle-management position position – as seen in Figure 4. Even though this might seem provocative, top managers might be inclined to jump to conclusions when generalising about the integration of their employees across the entire company. After all, due to the nature of their responsibilities, they only have direct contact to part of their workforce from which they infer the general integration status.

However, this daring assumption cannot be generalised. Many companies have indeed designed systems to stimulate their employees' creativity, encouraging them to make suggestions to increase sustainability. Management asks employees to come up with ideas. These ideas can take any form and range from process changes to simple everyday measures for increasing sustainability. Some firms even arrange competitions for sustainability ideas where the best idea is rewarded and afterwards implemented.

Looking at the second group shows that the most important indirect stakeholder is the general public. The high degree of integration of the general public might again be due to reputational considerations. This topic was already encountered when discussing customers and the general public as drivers of sustainability. In this respect, the results on stakeholder integration can be seen as complementary to the findings on drivers of sustainability. It seems only intuitive to integrate those stakeholders who are also the strongest drivers of sustainability. Moreover, companies try to influence public opinion by taking a proactive rather than a reactive approach, which explains the importance of the general public.

Figure 34 provides the average values of the chapter on stakeholder integration.

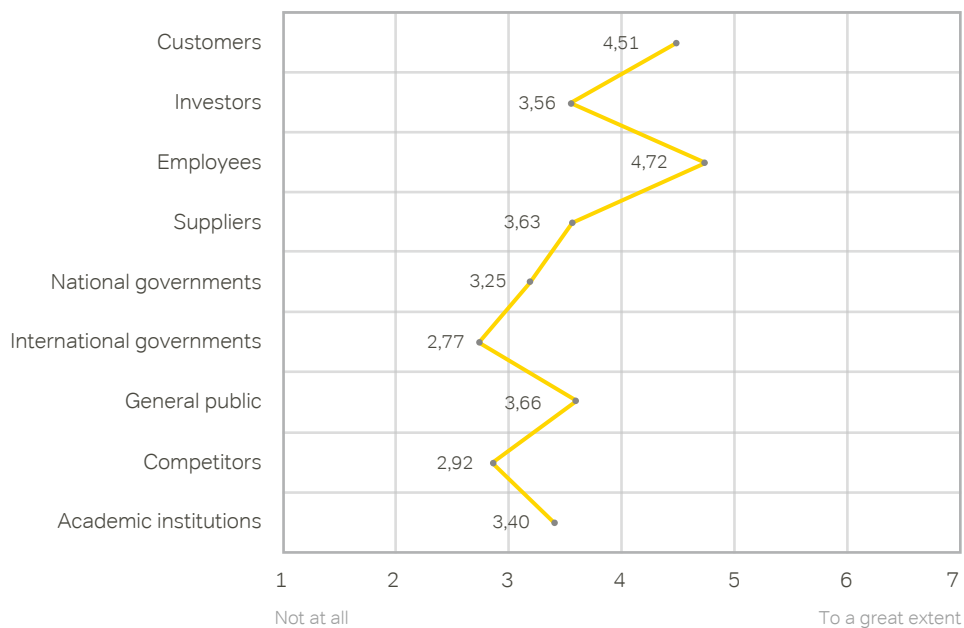


Figure 34: Stakeholder Integration Capability

Regarding stakeholder integration, the differentiation between top- and low-performing companies is very pronounced. Indirect stakeholders seem to be more or less neglected by low-performing companies and from the group of direct stakeholders only employees and customers play major roles. Since out of the spectrum of integrated stakeholders the focus appears to be set on employees and customers, the eventual sustainability strategy of low-performers is unlikely to be as comprehensive as the strategy by top-performers.

Figure 35 provides the comparison of the results to the questions in this chapter.



Figure 35: Top- and Low-Performers – Stakeholder Integration Capability

## SPOTLIGHT ON LOGISTICS

Logistics companies integrate stakeholders to a greater extent than non-logistics companies do into their sustainability strategy formulation. This finding holds true for all groups of stakeholders except for suppliers and employees. The weak integration of employees supports the result that employees take on a much weaker role for logistics companies than for non-logistics companies. The earlier explanation, that this is caused by the kind of workforce and type of contracts that are common in the sector, can also be applied in this case. A high fluctuation among employees makes it difficult for logistics companies to actually integrate them into their strategy formulation process.

The higher integration of all other groups of stakeholders could be explained by the general function logistics providers fulfil: They are the connecting link in the supply chain. By connecting the different parties within the supply chain they might integrate everyone automatically to a high extent due to the increased need for coordination and alignment of strategies.



## 8 QUALITY AND SUSTAINABILITY EXPERIENCE

Technique /Certification	Field of Application
International Organisation for Standardisation ISO 9000	Certification that comprises a set of standards related to quality management
Total Quality Management	Management approach that works towards the continuous improvement of products' and processes' quality
Six Sigma	Management strategy for the quality improvement of business and manufacturing process outputs
Lean Manufacturing	Production practice to achieve efficiency by decreasing the wasteful use of resources
Social Accountability International SA 8000	Certification that comprises a set of standards related to working conditions
International Organisation for Standardisation ISO 14000	Certification that comprises a set of standards related to a company's impact on the environment
Eco-Management and Audit Schemes (EMAS)	Certification that comprises a set of standards related to a company's impact on the environment
International Labour Organisation (ILO)	International organisation that publishes a set of standards related to working conditions
Global Reporting Initiative (GRI)	Set of standards related to sustainability reporting
Lifecycle Assessment	Technique to assess the environmental impact of a product throughout all stages
United Nations Global Compact (UNGC)	Initiative that comprises principles related to sustainability

Table 2: Quality and Sustainability Systems and Certifications

Chapter eight evaluates how much experience companies have with quality and sustainability accreditations, guidelines, techniques and systems. Table 2 shows the systems and certifications which were subject to the questions.

Quality and sustainability management techniques and systems are combined in one section as they show several conceptual similarities: They are both ongoing activities and aim at the prevention rather than the detection or control of inefficiencies. They both require high employee involvement and are characterised as processes of continuous improvement (Hart, 1995). Thus, one could expect quality management and sustainability efforts to go hand in hand, maybe even due to possible synergies that could be exploited. The first of these certifications were introduced in the late 1980s. Although the certification process might turn out to be both lengthy and costly, firms choose to pursue a certification for a number of reasons, such as a better comparability

across companies and better management control, and because of its signalling effect for stakeholders (ISO/IEC Information Center, 2008).

For the study's participants, the International Organisation for Standardisation (ISO) is the most important tool in terms of quality and sustainability management. In terms of certification diffusion, quality management certification is the topic companies have most experience with, above all with the ISO 9000 certification. 68% of the companies indicated that they have at least some experience with the ISO 9000 standard. This result can be easily explained since firstly, certifications for quality management have existed much longer than for sustainability issues, and secondly, since ISO 9000 in particular is one of the certifications which has existed for the longest time.

The supremacy of the ISO certifications is also true for sustainability. 43% of the participants said that they had experience with the ISO 14000 certification, which is the highest value in the sustainability section. This is in congruence with the observation that due to its prevalence in many cases an ISO certificate is actually the prerequisite for cooperation between companies. For instance, many automotive companies demand an ISO certification from their suppliers before starting to conduct business. Overall, it becomes obvious that quality management techniques are at the moment more relevant for companies than sustainability techniques.

Figure 36 provides the average experience companies have with the eleven quality and sustainability management methods which are part of this chapter.

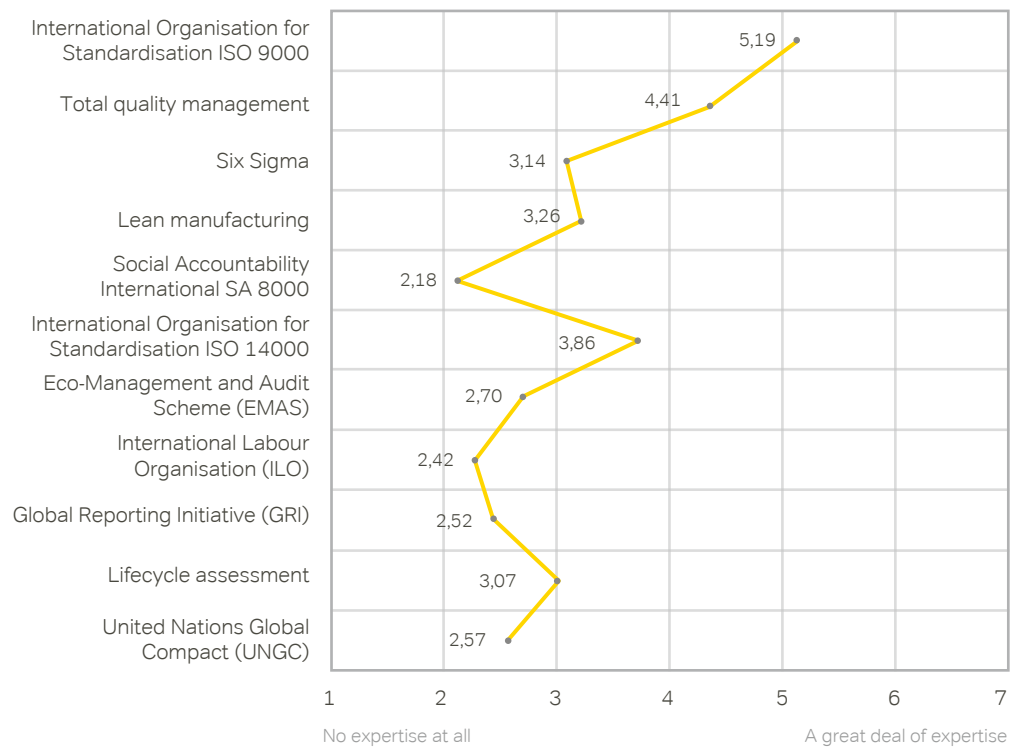


Figure 36: Quality and Sustainability Experience

When comparing top-performers and low-performers, it becomes apparent that top-performing companies seem to have considerably more experience with both quality and sustainability techniques, guidelines and accreditations. Certification procedures are very cost-intensive and it can take a firm several months or years to complete it. Furthermore, all certificates involve regular audits by third-party organisations. For some of the low-performers it simply might not be feasible to pursue such a certificate due to a lack of resources and a focus on other priorities that might be more imminent.

An interesting aside is that all low-performing companies in the sample stated a “1”, the lowest value possible, for the Global Reporting Initiative, the International Labour Organisation and the United Nations Global Compact. Therefore, the low-performers included in the study seem to have no expertise at all in any of the three concepts. This supports the general impression that low-performers engage in certification procedures to a lesser extent: If low-performers hesitate to pursue widespread certifications such as ISO 9000 and ISO 14000, they are obviously even far more unlikely to follow e.g. the Global Reporting Initiative, which is characterised by an even lower diffusion.

Figure 37 summarises the comparison between top- and low-performers.

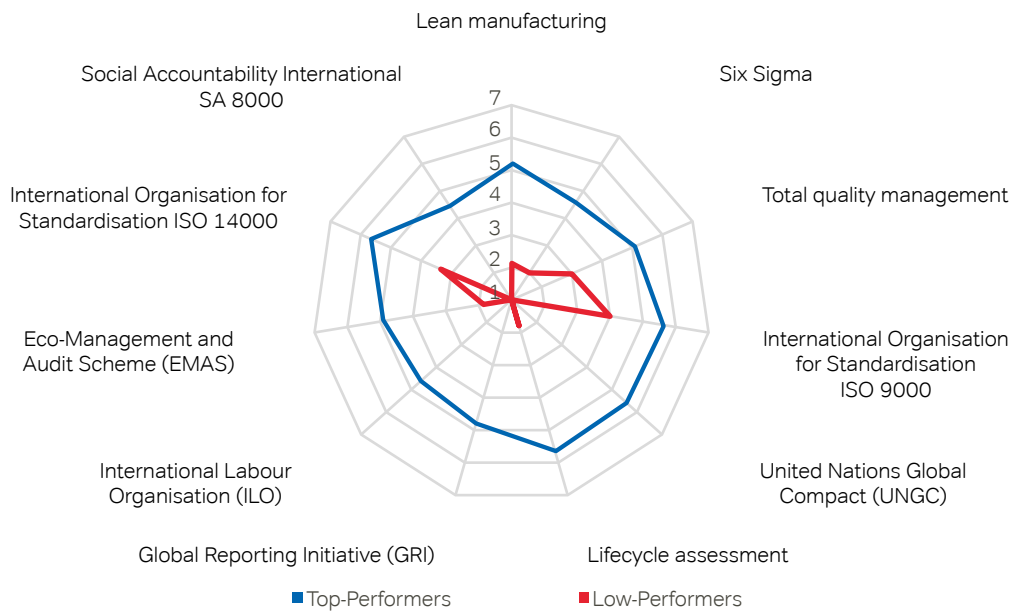


Figure 37: Top- and Low-Performers – Quality and Sustainability Experience

## SPOTLIGHT ON LOGISTICS

Across all certification items, non-logistics companies have more experience than logistics companies do. For some of the tools such as Six Sigma or lean manufacturing the explanation is fairly simple. Logistics companies do not produce tangible goods but rather intangible services. Thus, methods to improve production processes are only applicable to a lesser extent.

However, the difference between logistics and non-logistics companies is considerable for sustainability methods as well. For instance, the question concerning the ISO 14000 certification displayed an average of “3.63” for logistics and an average of “4.21” for non-logistics companies. This supports the statement that logistics companies still might see optimisation potential for the practical implementation of their pursuit of sustainability.

Nonetheless, these figures are likely to assimilate. Earlier, the example of automotive companies was referred to, which require their suppliers to be certified according to a predetermined set of standards. These requirements might soon be extended to logistics service providers as well: Manufacturing companies are likely to stipulate the same standard certifications they demand from their suppliers from their logistics providers as well, exerting the same amount of pressure on both groups.

## 9 RECOMMENDATIONS TOWARDS BECOMING A SUSTAINABLE CORPORATION

---

The study's participants stated that sustainable companies are more likely to attract an increased number of customers and high-skilled employees, and have a better public image. Also, as participants conveyed, compliance with current regulations and anticipation of future laws require the implementation of a more sustainable way of thinking. These are all valid reasons why sustainability is actually worth it – apart of course from the altruistic idea of saving the environment and simply doing something good.

However, there is another reason for supporting sustainability which will intrigue companies most: Sustainability is economically profitable. We applied several statistical techniques to understand the relationship between sustainability techniques and practices and their impact on firm performance. The results are intriguing.

Regression analysis clearly shows that the more companies realise activities for pollution prevention in production, the better their economic performance is compared to the industry average. The same holds true for sustainable development: The more companies engage in the sustainable development of e.g. their employees or local communities, the better they perform economically. The analysis also indicates a future relevance of sustainability engagement: The clearer sustainability is stated as a top priority within a company, the higher the companies' competitive advantage is. Also, the more companies pursue activities such as switching modes of transportation or fleet modernisation, the more sustainable their competitive advantage is likely to be compared to the industry average. All of these results are statistically significant and thus cannot be “shrugged off”.

What companies really need to know now is where they are in terms of sustainability. There might be a gap between how advanced companies perceive their currently undertaken activities and how advanced they really are. Is it enough to comply with all current regulations? Should the supply chain be trawled through for sustainability possibilities? Is it necessary to develop a sustainable product?

Nidumolu, Prahalad and Rangaswami (2009) suggest a classification system which categorises companies according to the extent with which they have embraced the pursuit of sustainability. Here, a slightly adapted version of their original model is presented.

Four types are distinguished, namely dreamers, qualifiers, followers and winners. The stages build upon each other. Companies start off as dreamers who confine themselves to complying with current regulations. They may then turn into qualifiers reassessing their value chain in order to make production and supply chain processes more sustainable. In the next step, followers design sustainable products and services for their customers. Finally, winners develop entirely new, sustainable business models (Nidumolu, Prahalad and Rangaswami, 2009).

While these stages can be interpreted as chronologically consecutive, many firms may never achieve a progress from one stage to the next. Advancing is more easily said than done: It may require rethinking and restructuring the company's conduct of business. Once the next level has been achieved, it does not become any easier. The higher the level a company has reached, the more it takes to achieve an even more advanced level.

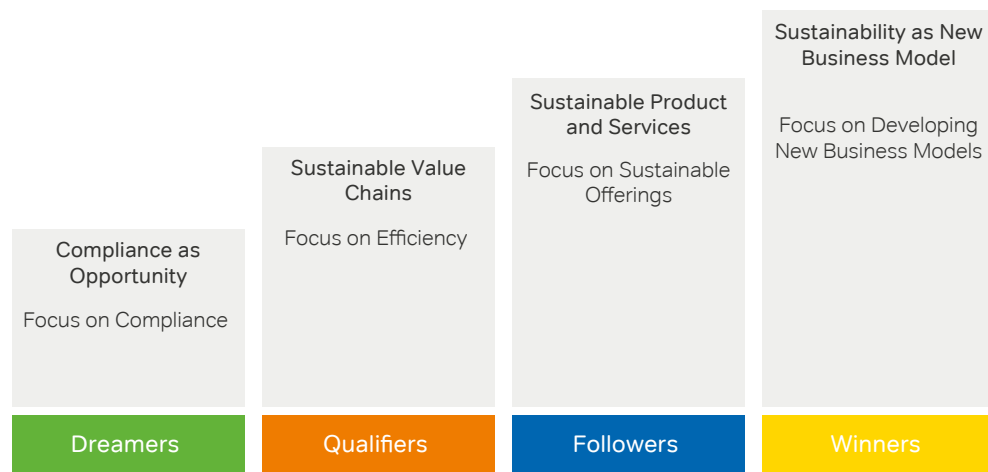


Figure 38 – Four Steps towards Becoming a Sustainable Corporation

Once companies have assessed their current state of affairs, the question they will raise is what comes next. How can a company get to the next level? What does a company have to do?

The classification system of Nidumolu, Prahalad and Rangaswami (2009) may seem too theoretical for some. This study fills the gap between theory and practice and offers practical implementation advice on how a company can take advantage of the classification system. From the participants' estimations, packages with activities can be put together. Each bundle contains the activities that a company needs to engage in to reach the next step on the ladder towards becoming an entirely sustainable company. While reaching the next level, i.e. becoming a qualifier instead of a dreamer or a winner instead of a follower cannot be guaranteed, fulfilling the requirements makes advancing to the next level a great deal more likely.

The basic requirement to start with is obviously the compliance with current regulations. This is the very minimum. The top- and low-performers among the study's participants scored almost equally high in compliance with current legislation. A plus would then consist of anticipating future regulations and preparing for them. Among the participating companies the top-performers were the ones that took a look at the future and tried to foresee future regulations. The integration of national and international governments into the sustainability strategy formulation can be an accompanying activity. However,

the upper range of being a dreamer asks for more than that: Integrating competitors into sustainability strategy formulation can lead to future advantages. The top-performers among the participants have reached this conclusion, while the low-performers do not seem to have done so. If companies were willing to team up they might be able to influence future regulations on sustainability by setting industry standards. Past examples can be found in the automotive industry. One of the earliest examples stems from 1990 when BMW introduced its “design for disassembly” and a corresponding take-back infrastructure for its products, which later became industry standard (Hart, 1995). The companies that are not able to integrate their competitors will lag behind.

To summarise, the recommendations for the first step are:

**COMPLY WITH CURRENT REGULATIONS**

**ANTICIPATE FUTURE REGULATIONS AND PREPARE ACCORDINGLY**

**COOPERATE CLOSELY WITH NATIONAL AND INTERNATIONAL GOVERNMENTS IN THE PURSUIT OF SUSTAINABILITY**

**BECOME PART OF INDUSTRY NETWORKS TO SET INDUSTRY STANDARDS**

But companies ought to want more than just fulfilling the basic requirements. After all, that is not what they are aiming at by fulfilling customer needs, so why should they confine themselves to the basics in terms of sustainability?

Qualifiers start by restructuring their own production and processes, and then expand their activities to the entire supply chain. The measures to be taken include pollution prevention in production and in logistics and range from reducing water, energy and material usage to modernising their fleet, switching modes of transportation and providing driver training. Both top- and low-performers in the study engage in these activities, yet top-performers do so to a significantly higher extent.

Also, the full impact of a company’s products needs to be taken into account. Hence, lifecycle assessments are pivotal.

In order to be able to transfer these activities to the entire value chain, the integration of suppliers is essential. Only together with suppliers can companies formulate sustainability strategies that include the entire supply chain. Low-performing companies in the sample apparently struggle with transferring these activities to the entire supply chain, which can be seen in the low degree to which they integrate their suppliers into their sustainability strategy formulation – as opposed to top-performers.

Top-performers among participants have also recognised the importance of the entire supply chain and take a holistic view on sustainability in the future: They consider suppliers to become much more important as drivers of sustainability than low-performers do. The future integration of the entire supply chain seems to be more on the agenda of top-performers than on that of low-performers.

Thus, in order to become a qualifier the following activities are recommended:

#### PREVENT POLLUTION IN PRODUCTION

- Reduce water usage
- Reduce energy usage
- Reduce material usage
- Reduce emissions
- Reduce waste

#### PREVENT POLLUTION IN LOGISTICS

- Consolidate shipments
- Switch modes of transportation
- Modernise the fleet
- Provide driver training
- Implement emission and traffic monitoring systems

#### CONDUCT LIFECYCLE ASSESSMENTS TO CONSIDER A PRODUCT'S ENTIRE ENVIRONMENTAL IMPACT

#### INTEGRATE SUPPLIERS INTO COMPANY ACTIVITIES AND STRATEGIES

Followers accomplish all of the above – and more. While they do not diminish their efforts in achieving a sustainable production and sustainable processes, they take a closer look at consumers' needs and wishes and develop sustainable products and/or services. This obviously does not only require the integration of the customer into the sustainability strategy formulation but also the integration of the general public to create an understanding for the efforts that are being made, and to avoid that their efforts are labelled as “greenwashing”, i.e. creating the false perception of being environmentally friendly without actually achieving it. The participating top-performers outperform low-performers when it comes to integrating the general public as they seem to have understood the importance of doing so.

In this respect, certifications do accomplish their renowned signalling effect and show that companies fulfil third-party audited standards. Top-performers in the sample pursued a variety of certifications – as opposed to their counterparts, the low-performers.

The creation of sustainable products is very likely to require the redesign of products and services, which implies a considerable effort but is also likely to open up new markets. While the low-performers among the participants seem to refrain from redesign of any type for sustainability purposes, top-performers have chosen to embrace it as a business opportunity.

To become a follower a company needs to do the following:

#### LEARN TO KNOW WHAT CUSTOMERS DEMAND IN TERMS OF SUSTAINABILITY AND



## INTEGRATE CUSTOMERS INTO THE SUSTAINABILITY STRATEGY FORMULATION

### REDESIGN PRODUCTS AND SERVICES WHERE NEED BE

- Redesign products and services to reduce their resource requirements
- Redesign products and services to facilitate their reuse and recycling
- Redesign products and services to reduce their impact on employee health safety
- Redesign products and services to decrease the environmental impact of their components

### PURSUE CERTIFICATIONS SUCH AS ISO 9000 AND ISO 14000 TO SHOW THAT STANDARDS ARE BEING FULFILLED

### INTEGRATE THE GENERAL PUBLIC TO CREATE AN UNDERSTANDING FOR THE EFFORTS THAT ARE BEING MADE

### TAKE ADVANTAGE OF SUSTAINABILITY AND ENTER NEW MARKETS WHERE POSSIBLE

The winners constitute the top class of sustainability striving. Again, this implies that winners have accomplished all of the aforementioned and still continue to strive for sustainability without neglecting any of the foregone activities. They make sustainability the top priority of their objectives and aim at new, sustainable business models. New business models can be found in a variety of ways. One would be to keep an eye on new technology developments and implement them if applicable. Also, to close the circle, the integration of competitors – an activity which already dreamers pursue – can be expanded. Teaming up with competitors can lead to new sustainable business ideas.

Becoming a winner requires high financial, time and resource commitments and the restructuring of the organisation. Any restructuring of an organisation calls for the integration of the employees into the strategy formulation because otherwise it is likely to fail due to a lack of employees' understanding and support. The development of employees goes hand in hand with their integration. While there is always potential for improvement, the top-performers among the interviewees incorporate the winners' category. They are not afraid of spending resources on sustainability, have employees with clearly assigned sustainability responsibilities in place and have made sustainability one of their top priorities. Glancing at the future, top-performers are even prepared to increase their budget for sustainability in the upcoming years. While low-performers estimate the budget to increase as well, the magnitude to which it will do so, differs from that of the top-performing companies.

In order to become a winner the attitude of the company leadership or management is pivotal. Only if the management is able to create an inspiring vision of sustainability and communicates the moral responsibility towards sustainability convincingly, the pursuit of

sustainability within a company will become a success. From an internal perspective, the top-performers in the study's sample were the epitome of the winners: The data shows clearly that their management is able to convey a strong and inspiring sustainability vision. In this phase, an understanding for the sustainability strategy does not only need to be created on the part of the general public but also on the part of the investors as both their support is essential.

The degree to which the top-performers among the participants integrated investors, customers and employees at the same time seems to be beyond compare and is certainly no match for low-performers.

In conclusion, winners perform the following activities.

**MAKE SUSTAINABILITY ONE OF THE PRIORITY OBJECTIVES OF THE COMPANY**  
**DEDICATE SUBSTANTIAL HUMAN, FINANCIAL AND TIME RESOURCES TO SUSTAINABILITY IF NECESSARY**  
**ESTABLISH A STRONG AND INSPIRING SUSTAINABILITY VISION**  
**INTEGRATE EMPLOYEES INTO THE FORMULATION OF A SUSTAINABILITY STRATEGY**  
**FOSTER THE INTEGRATION OF COMPETITORS TO ESTABLISH STRATEGIC ALLIANCES**  
**PURSUE NEW TECHNOLOGY THAT ENABLES SUSTAINABILITY**  
**INTEGRATE INVESTORS INTO THE STRATEGY FORMULATION**

## 10 CONCLUSION

---

Sustainability is already on the corporate agenda. And still, its nature and the possibilities it entails are neither fully explored nor exploited.

In this study we were able to reach the goal of exploring the state of sustainability at hand in today's companies, highlighting ways it can be implemented and giving recommendations for action. In the beginning several questions were asked:

- Does sustainability have a positive impact on the performance of a company?
- How do companies gain an advantage from sustainable practices and how do these best practices set them apart from the competition?
- What are the actual drivers of sustainability?
- What do managers perceive as barriers to embracing the concept?

Given the sample size of more than 100 participants and their hierarchical positions, this study was able to provide valid and informative answers to these questions.

### DOES SUSTAINABILITY HAVE A POSITIVE IMPACT ON THE PERFORMANCE OF A COMPANY?

Yes, it does. The most important outcome of the study was the conclusion that sustainability initiatives are positively related to company performance. Ultimately, sustainability is not only a concept to increase reputation, but must be perceived as a way to increase performance, prepare for the future and set the company apart from the competition.

### HOW DO COMPANIES GAIN AN ADVANTAGE FROM SUSTAINABLE PRACTICES AND HOW DO THESE BEST PRACTICES SET THEM APART FROM THE COMPETITION?

Within the sample, best practices from top-performing companies could be identified. It became obvious that top-performing companies engaged to a considerably greater extent in sustainability than low-performing companies did and that they were willing to spend significant resources on it in the form of time, human and financial assets. Across all types of practices, top-performers engaged more in activities and were not afraid of redesigning their products or processes.

### WHAT ARE THE ACTUAL DRIVERS OF SUSTAINABILITY?

Company leadership, governments and customers are the most important drivers of sustainability. It is not the possibility of skimming a price surplus from customers that motivates companies but the mere consumer demand for sustainability. Participants argued that customers demand sustainability as a standard but are not willing to pay a surcharge.

### WHAT DO MANAGERS PERCEIVE AS BARRIERS TO EMBRACING THE CONCEPT?

The lack of customers' willingness to pay and insufficient managerial commitment impede a stronger sustainability focus the most. Also, the time commitment necessary for pursuing sustainability is more hindering than possible high upfront investments and operational costs are.

### EXCELLENCE IN SUPPLY CHAIN SUSTAINABILITY

The results show that sustainability is of strategic importance – a fact that companies have realised and which forces them to act. It is certainly not trivial to cope with the challenges that the pursuit of sustainability present. The answers of the participants indicated that companies find themselves at various stages in the implementation of sustainability. This study gives recommendations on how companies can develop, reach the next level in terms of sustainability and can thus foster their performance in order to become a company that excels at sustainability.

## 11 REFERENCES

---

- Astheimer, Sven, 2009. Zeitarbeit in der Krise – Der Lackmustest für das Stellenwunder. Frankfurter Allgemeine Zeitung. Retrieved on April 18, 2011 from <http://www.faz.net/s/RubD16E1F55D21144C4AE3F9DDF52B6E1D9/Doc~E2C2A4EAA0F6B472FB392F2A56BC4E7BB~ATpl~Ecommon~Scontent.html>
- Deutsche Bank Research, 2008. Logistik in Deutschland – Wachstumsbranche in turbulenten Zeiten. Themen international. Aktuelle Themen 432. Frankfurt.
- Hart, Stuart L., 1995. A natural-resource-based view of the firm. Academy of Management Review. Volume 29, Issue 4, pp. 986-1014
- International Energy Agency, 2009. Transport, Energy and CO2 – Moving towards sustainability.
- ISO/IEC Information Center, 2008. Retrieved April 12, 2011 from <http://www.standardsinfo.net/info/index.html>
- Heiny, Lukas, Klöckner, Nina, Brambusch, Jens and Schäfer, Simon, 2010. War's das mit der Krise? Financial Times Deutschland. Retrieved on April 18, 2011 from <http://www.ftd.de/politik/deutschland/:agenda-war-s-das-mit-der-krise/50176871.html>
- Nidumolu, R., Prahalad, C., and Rangaswami, M., 2009. Why Sustainability Is Now the Key Driver of Innovation. Harvard Business Review.
- Plambeck, E. L., & Denend, L., 2007. Wal-Mart's Sustainability Strategy. Palo Alto: Stanford GSB.
- Porter, Michael E., 1990. The Competitive Advantage of Nations. New York: Free Press
- Verkehrsrundschau, 2010. Logistik-Branche rappelt sich auf. Retrieved on March 29, 2011 from <http://www.verkehrsrundschau.de/logistik-branche-rappelt-sich-auf-935914.html>
- Werbach, Adam, 2009. Strategy for Sustainability – A Business Manifesto. Harvard Business School Publishing, Boston.
- World Commission on Environment and Development. 1987. Our common future. Oxford University Press, New York.

**Publisher:**

Logica Deutschland GmbH & Co. KG  
Main Airport Center (MAC)  
Unterschweinstiege 10  
60549 Frankfurt am Main

T: +49 69 26499-0  
F: +49 69 26499-700  
tti.de@logica.com  
www.logica.de

**Authors:**

Professor Dr. Julia Wolf  
Assistant Professor  
Center for Sustainable Supply Chain Management  
Supply Chain Management Institute

Dr. Andreas Potzner  
Director  
Center for Sustainable Supply Chain Management  
Supply Chain Management Institute

Anna Grobecker  
Research Assistant  
Center for Sustainable Supply Chain Management  
Supply Chain Management Institute

Ingmar Schaefer  
Student Assistant  
Center for Sustainable Supply Chain Management  
Supply Chain Management Institute

**Editors:**

Simone Zach  
Managing Consultant  
Logica Deutschland GmbH & Co. KG

Mirela Johnson  
Business Consultant  
Logica Deutschland GmbH & Co. KG

**Design:**

K 16 GmbH  
St. Annenufer 5  
20457 Hamburg

Copyright © 2011 Logica Deutschland  
All rights reserved.

Logica Deutschland GmbH & Co.KG  
Trade, Transport & Industrial  
Main Airport Center (MAC)  
Unterschweinstiege 10  
60549 Frankfurt am Main

T: +49 69 26 499-0  
F: +49 69 26 499-700  
tti.de@logica.com

[www.logica.de](http://www.logica.de)



---

AUSTRALIA / BELGIUM / BRAZIL / CANADA / CZECH REPUBLIC / DENMARK / EGYPT / ESTONIA / FINLAND / FRANCE / GERMANY / HONG KONG / HUNGARY / INDIA / INDONESIA / KUWAIT / LUXEMBOURG / MALAYSIA / MOROCCO / NETHERLANDS / NORWAY / PHILIPPINES / POLAND / PORTUGAL / RUSSIA / SAUDI ARABIA / SINGAPORE / SLOVAKIA / SPAIN / SWEDEN / SWITZERLAND / TAIWAN / UKRAINE / UNITED ARAB EMIRATES / UK / USA