The Green Light towards Sustainability: Embedding Sustainability into a Branded Design Company

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**Abstract:** Production and consumption of products contribute to the global sustainability challenge by degrading natural and social systems. This thesis focuses on branded products, which through powerful images and meanings symbolise the core business of a company and a platform of identification for its stakeholders. This study investigates the possibility to align a brand and its company with sustainability. With the help of a small branded design company in Berlin, which served as case study, a strategic management planning process was conducted and action research was used to be able to engage the participants in creating movement towards sustainability. The research shows that there are major internal and external barriers and motivations that can either hinder or inspire. The actions and approaches that were identified for a branded design company represent possible means to transform its business towards sustainability. Natural resources are decreasing relative to the growth in human population and affluence. This fuels the need to develop more sustainable products so that human needs and natural eco-systems can thrive. A branded design company has the ability to help lead society through innovating products, services, and activities towards a sustainable future.

**Keywords:** Strategic Sustainable Development, Systems Thinking, Strategic Management Planning, Brand, Sustainable Product Design, Innovation for Sustainability
Statement of Contribution

This thesis was developed and written as a collaborative effort. Each person in our team brought and contributed different knowledge, abilities, perspectives and ideas to the research and work process. This paper includes outcomes from research, activities, and work with Ampelmann GmbH, a branded design company, located in Berlin, Germany. Due to our different backgrounds and skills, the tasks of researching, writing, editing, building presentations, interviewing, analysing data, designing figures, and developing and executing workshops were divided according to abilities and personal skills.

In general, responsibilities and tasks were distributed as follows:

- All – Data collection and analysis: interviews, surveys, literature review, presentation design, strategic management planning, research analysis, writing and editing.
- Reed Evans – Introduction and discussion lead author; workshop design and execution; Ampelmann employee engagement, document editor.
- Ricardo García Guerra – Statement of contribution, acknowledgments, and conclusion lead author; visual design.
- Myriam Schaefer – Results and baseline analysis report lead author, German-English lead translator; Ampelmann lead liaison.
- Isabella Wagner – Methods and discussion lead author; workshop design and execution; thesis overall planning, project management; visual and document editor, translator.

During the entire research and writing process, we were fully supported by our advisors and the MSLS programme team, who were always willing to guide us.

Karlskrona, Sweden. June 2011

- Reed Evans
- Ricardo García Guerra
- Myriam Schaefer
- Isabella Wagner
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Executive Summary

Interlinking projects – dual roles

This thesis explores the barriers, motivations, and possibilities for a branded design company to contribute successfully towards a sustainable society. Our thesis group had the exciting opportunity to work with one unique branded design company, Ampelmann GmbH, located in Berlin, Germany, in a collaborative relationship on interlinking projects. Our primary project was to conduct the research for this thesis. Our secondary project was to execute, as sustainability consultants, a company-wide engagement process with Ampelmann that included strategic management planning and various activities to bring awareness, spur creativity, and generate excitement surrounding innovative product design options towards sustainability. This engagement provided compelling outcomes for both projects. We derived results to answer our research questions, had an engaging learning experience and made an impact as project consultants.

Introduction

Production and consumption of products contribute to the global sustainability challenge by degrading natural and social systems. Sustainability, as defined in this thesis, means sustaining human society and the ecological system by not systematically degrading these systems. Root causes of this degradation have been identified through the scientific laws governing the biosphere by four distinct Sustainability Principles (SPs) that address both environmental and social aspects. A focused and strategic transition towards a sustainable future, called strategic sustainable development, is necessary in order to deal with the complexity of these interconnected systems and the sustainability challenges faced. The Framework for Strategic Sustainable Development (FSSD), that includes the SPs, can guide planning and decision making in complex systems specifically towards sustainability. This thesis focuses on examining companies that design and sell products, in particular where brand, through powerful images and meanings, symbolises the core purpose of a company and a platform of identification for its stakeholders. Since our group was especially excited to develop a strategic sustainability management plan for a company, we developed the following inquiry.
Research

Primary research question:

How can a branded design company contribute to developing a sustainable society?

Secondary research questions (referred to as first and second research question):

1. What are major barriers and motivations for a branded design company to move towards sustainability?
2. What approaches and actions can be taken by a branded design company to transform its business towards sustainability?

Results

With our simultaneous projects, we have two sets of results:

Consultancy project: A company deliverable: Baseline Analysis Report. At the time of thesis completion, our case study company is in the process of developing a company vision, prioritising compelling actions towards sustainability, switching 95% of its t-shirt collection to organic cotton, and developing plans to establish a “green line” of products.

Research: Major barriers were identified for a branded design company through our work with Ampelmann and through literature review:

<table>
<thead>
<tr>
<th>Company Divisions</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational structure</td>
<td>• No defined company vision incorporating sustainability</td>
</tr>
<tr>
<td>and processes</td>
<td>• No full strategy to achieve sustainability</td>
</tr>
<tr>
<td></td>
<td>• No direct control of manufacturing of products</td>
</tr>
<tr>
<td></td>
<td>• Hesitancy and slow movement to allocate ongoing resources</td>
</tr>
<tr>
<td>Brand</td>
<td>• Strong brand reputation and company success</td>
</tr>
<tr>
<td></td>
<td>• Sustainability-minded consumer markets have not been investigated</td>
</tr>
<tr>
<td></td>
<td>• Current price setting constraints</td>
</tr>
<tr>
<td>Materials and products</td>
<td>• Higher cost of more sustainable materials and production</td>
</tr>
<tr>
<td></td>
<td>• Few viable, more sustainable material options</td>
</tr>
<tr>
<td></td>
<td>• Government rules and regulations</td>
</tr>
<tr>
<td>Energy</td>
<td>• Reliance on other entities for energy</td>
</tr>
</tbody>
</table>
Research: Major motivations were identified for a branded design company through our work with Ampelmann and through literature review:

<table>
<thead>
<tr>
<th>Company Divisions</th>
<th>Motivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational structure and processes</td>
<td>• Company interest in and understanding of sustainability action</td>
</tr>
</tbody>
</table>
| Brand                              | • Strong brand reputation and company success  
|                                    | • Understanding of relationship between brand reputation, sustainability, and new market opportunities |
| Materials and products             | • Government rules and regulations  
|                                    | • Awareness and knowledge of more sustainable options  
|                                    | • Early successes through actions fuel motivation to do more  
|                                    | • Decreasing amounts of finite natural resources |
| Energy                             | • Return On Investment (ROI) through energy efficiency |
| Individual behaviour               | • Perceived risk of being accused of green washing  
|                                    | • Personal life and children |
| Customers                          | • Seeing opportunities in value-driven sustainable products  
|                                    | • Increasing customer concerns about and interest in more sustainable products |
| Suppliers, vendors and supply chain | • Trustful, lasting relationships |
| Competitors                        | • Become market leader |
| Media and NGOs                     | • Public acknowledgement of efforts to move towards sustainability |

Our action research was a participatory process and included workshops, presentations, interviews, surveys, and other engagement and communication tools. The purpose of the interaction was to raise awareness and build enthusiasm about company options surrounding sustainability and to create a shared understanding of both the sustainability challenge and the need to contribute towards sustainability as a company.
Simultaneously, this interaction process served as a means to gather and collect data in order to answer our research questions.

The following actions and approaches represent exciting opportunities in all three pillars of sustainability: environmental, social, and economic:

<table>
<thead>
<tr>
<th>Category</th>
<th>Approaches &amp; actions</th>
</tr>
</thead>
</table>
| Company management, operations and processes | • Generate company-wide commitment  
• Research and ask the right questions  
• Allocate resources  
• Develop a sustainability company vision  
• Brainstorm actions  
• Develop company standards, guidelines, and policies  
• Engage suppliers in sustainability  
• Research, choose and apply appropriate tools for sustainable product development  
• Conduct risk analysis  
• Engage stakeholders  
• Develop and enforce a continual improvement programme  
• Develop a rewards and recognition programme for employees |
| Products and materials              | • Monitor and measure towards life cycle improvements  
• Find more sustainable substitutions for product materials  
• Integrate product-service and closed loop systems  
• Reduce energy and use of materials |
| Brand                              | • Integrate sustainability strategy into external communications  
• Develop a Corporate Social Responsibility Programme  
• Collaborate and develop partnerships |

**Discussion**

The components of strategic sustainability management planning are discussed in greater detail and include: the importance of commitment through allocation of resources, stakeholder engagement, creating a complete vision, backcasting to plan for a sustainable future, understanding the regulatory environment, risk analysis, and implementation planning. We touch upon human psychological aspects that may be behind some of the company barriers and motivations. We then highlight innovative product-design processes and some current successful business models that are worth studying for companies that have interest in moving towards sustainability, especially when guided by the FSSD.

The FSSD provides a wide-angle lens encompassing potential upstream causes of problems in the product development process. The constraints provided by the four SPs help designers and companies innovate more
sustainable solutions using realistic long-term resources and systems that can go beyond the limitations of what is currently viewed as best practices.

**Conclusion**

Our research shows that barriers and motivations exist in all areas of a company’s endeavours both in internal and external company arenas.

Regarding the case study company Ampelmann GmbH, management is aware of and interested in moving its company towards sustainability and, as a result of our interaction with them, the company is beginning to view sustainability from a strategic standpoint. Furthermore, employees have a deeper understanding of the company’s opportunities to move towards sustainability and are more interested in taking action.

Although Ampelmann has not yet had sufficient time to complete the full Strategic Management Planning Process towards sustainability, senior management is committed to completing the process and is taking ambitious steps in the right direction including a switch to 100% recycled content shopping bags, an ambitious plan to switch a majority of textile production for t-shirts to organic cotton, and the development of a green line of products.

Our results indicate that there are many meaningful approaches and actions that all branded design companies can take to add value to a sustainable society.
Glossary

**ABCD Process** - a strategic management planning process that uses backcasting from basic sustainability principles. The ABCD can be seen as the step-by-step manual on how to use the FSSD for planning.

**Backcasting** - a planning methodology based on envisioning a successful future and working backwards to connect this future to the present.

**Branded design company** - small, medium-sized or multinational business, company or organisation that puts forward a powerful image to foster its identity as core meaning of its business.

**Closed loop system** - a system in which all of its output is used as an input again. Waste or by-products of one process or product is used in making another product or serves some other purpose (e.g. recycling).

**Corporate Social Responsibility (CSR)** - a concept that integrates social and environmental concerns into business operations and in interactions with stakeholders.

**Five Level Framework (5LF)** - a conceptual framework that aids in analysis, decision-making, and planning in complex systems. It consists of five distinct, interrelated levels - Systems, Success, Strategic, Actions, and Tools.

**Framework for Strategic Sustainable Development (FSSD)** – a specific application of the Five Level Framework specially applied to a planning endeavour with the intent of planning toward sustainability of the global social and ecological systems.

**Green consumer** – a person who is mindful of sustainability related issues and obligations, and is supportive of environmental causes to the extent of switching allegiance from one product or supplier to another even if it entails higher cost.

**Green washing** - a term describing the deceptive use of public relations or marketing in order to promote a misleading perception that a company's policies or products (such as goods or services) are environmentally friendly.
**Life cycle assessment (LCA)** - A cradle-to-grave approach to assessing industrial processes that analyses a product’s environmental impacts from raw material extraction, through its production process and useful life, and finally to disposal or recycling.

**License to operate** - an informal or formal understanding or an informal or formal agreement between a company and local communities that allows the company to operate, provided it does not break local customs or impact local resource uses and needs negatively.

**Method for Sustainable Product Development (MSPD)** - a method for sustainable product development intended to be used by organisations to develop more sustainable products; it brings together the Framework for Strategic Sustainable Development and a concurrent product development process.

**PESTLE Analysis** - a strategic planning method, stands for "Political, Economic, Social, Technological, Legal, and Environment Analysis" and describes a framework of macro-environmental factors used in the environmental scanning.

**Product-Service System (PSS)** - a strategy, shifting the business focus from designing and selling only physical products or only services, to designing and selling a combination of products and services which are jointly capable of fulfilling specific client demands.

**Return on Investment (ROI)** - a performance measure that involves looking at the cost of a measure or item relative to the profit generated.

**Skype** - a computer software application that allows users to make voice calls and chats over the Internet.

**Strategic Life Cycle Assessment (SLCA)** - a tool that integrates the FSSD into the LCA process and allows decision-makers to look at a product’s sustainability aspects from a big picture perspective.

**Strategic Management Planning Process** - systematic process of envisioning a desired future and translating this vision into broadly defined goals and a sequence of steps to achieve them. It includes creating a vision, analysing the current reality, creating a list of actions, setting priorities and creating an action plan.
Sustainable Product - a “more sustainable product” is a product that is moving towards compliance with the Sustainability Principles and therefore has a better sustainability performance than conventional products in the respective industry.

Sustainable Product Development (SPD) - a process that embeds both responsibility and concrete issues of environmental, social and economic sustainability in the development of new products.

Sustainability Principles (SPs) - principles built upon scientifically rigorous, consensus-based understanding that define the minimum conditions for a sustainable society and intended for use in backcasting; found at the “success” level of the FSSD.

Sustainability - is global socio-ecological sustainability defined by the four Sustainability Principles.

Sustainability Marketing - often referred to as Green Marketing, is a way to brand your marketing message in order to capture more of the market by appealing to people's desire to choose products and services that are better for the environment.

SWOT Analysis - a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats for a project, a business venture, an organization, etc.

Template for Sustainable Product Development (TSPD) - a strategic overview tool for sustainable product development, intended to be used by organisations in collaboration with sustainability experts to initiate out-of-the-box thinking and expert dialogues regarding sustainability in product development.
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1 Introduction

This thesis explores the possibilities for a company with a strong brand image to contribute successfully towards a sustainable future for society. The topic emerged through the opportunity to explore strategic management planning and product design towards sustainability for one unique German branded design company in Berlin with a brand image representing safety and survival. Through this exploration, we hope to provide insights surrounding possibilities of aligning brand with sustainability.

1.1 Global Sustainability Challenge

The global sustainability challenge that society faces is fuelled by exponential growth of the world’s population, projected to rise 50% by 2050 from 1995 (Raskin et al. 1998; Belz and Peattie 2009). A combination of multiple human actions and endeavours and their cumulative effect contribute to the challenge. Governments, in part, to satisfy the needs of their nation’s inhabitants, continue to focus on economic growth through policies that generate business and job creation, increase productivity, and boost consumption (International Labour Office 2010). Products and processes have emerged through these policies that satisfy basic needs of some portions of country populations and communities. Invention and innovation have added increasing levels of comfort, convenience, and entertainment offerings far beyond basic needs resulting in superfluous buying for those people who can afford to pay for it. In most developed and developing nations, this appetite to over-consume has become a societal norm (Constance 2005).

Consumption over the last century has escalated to unsustainable levels (Burgess 2003). The societal trends continue to be “progressive homogenization of global culture around the values of materialism and individualism” (Raskin et al. 1998, 45). Products, packaging and their byproducts are landfilled, incinerated, recycled, and strewn throughout the biosphere, creating hardship for natural systems. In 2008, 2.7 billion tonnes of waste were generated in the European Union (European Commission 2011).

Scientific laws establish that energy and matter are not created or destroyed. Both spread in concentration and structure when not confined.
Matter remains on earth bound by the forces of gravity. Energy enters the earth’s atmosphere as solar radiation and some of it exits as heat radiation. Increasing amounts of natural substances, including metals and fossil fuels, are the energy forms and raw matter used to manufacture what inevitably ends up in societies’ waste streams (Pomper 1962). Greenhouse gases accumulating in the atmosphere are reaching levels viewed by many scientific researchers as dangerous to living systems (IPCC 2007). These phenomena describe parts of the global sustainability challenge. While solutions are sought and implemented world wide for these environmental problems, they are generally focused on dealing with the end result of these challenges rather than attacking the cause (Broman, Holmberg and Robèrt 2000). The effects include dwindling natural resources and ecosystem services while the demand for those same resources and services rises, leading society towards what can be described metaphorically as an impending bottleneck: society will be faced with less and less options to thrive or even to survive if current human behaviour and operations continue without adjustment (Robèrt 2000; Ny 2006).

The earth’s interconnected system is complex: the causes of environmental degradation may be moving the system to a threshold where significant shifts in earth conditions may occur rapidly and irreversibly. Only after a threshold has been reached may permanent effects on society and nature be fully realised. (Broman, Holmberg and Robèrt 2000).

1.2 The Five Level Framework and the Framework for Strategic Sustainable Development

Sustainability as defined in this thesis means sustaining human society and the ecological system by not systematically degrading the ecological and social systems that humanity depends upon. Therefore root causes to degrade those systems have been identified through the scientific laws governing the biosphere by four Sustainability Principles (SPs). The four principles are:

“\textcolor{white}{In a sustainable society, nature is not subject to systematically increasing...}

1. concentrations of substances extracted from the Earth's crust
2. concentrations of substances produced by society
3. degradation by physical means
And, in that society…

4. people are not subject to conditions that systematically undermine their capacity to meet their needs” (Broman, Holmberg and Robèrt 2000; Holmberg and Robèrt 2000; Ny et al. 2006).

Addressing the earth’s challenges from a whole systems perspective encourages taking into consideration the tightly woven complexity that exists. A focused and strategic transition towards a sustainable future, called strategic sustainable development is necessary in order to deal with that complexity. The Framework for Strategic Sustainable Development (FSSD), developed and refined over the last two decades by scientists, academics, and educators is based on the generic Five Level Framework (5 LF) for planning and decision making in complex systems (Figure 1.1).

<table>
<thead>
<tr>
<th>Level</th>
<th>Generic 5-Level Framework for Planning in Complex Systems</th>
<th>Framework for Strategic Sustainable Development (FSSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. System</td>
<td>The system that is relevant to the goal</td>
<td>Society (within the biosphere)</td>
</tr>
<tr>
<td>2. Success</td>
<td>The definition of success</td>
<td>Compliance with sustainability principles</td>
</tr>
<tr>
<td>3. Strategic Guidelines</td>
<td>Guidelines used to select actions to move the system towards success</td>
<td>Backcasting Return on Investment Flexible Platform Move toward success …</td>
</tr>
<tr>
<td>4. Actions</td>
<td>Concrete actions that follow the strategic guidelines</td>
<td>…</td>
</tr>
<tr>
<td>5. Tools</td>
<td>Tools that support the process</td>
<td>…</td>
</tr>
</tbody>
</table>

*Figure 1.1. Generic Level Framework and the Framework for Strategic Sustainable Development (FSSD) (Thompson 2010, 9)*
The FSSD is designed to support strategic planning towards a sustainable society. It provides a structure that can be used for planning, analysis, and decision-making.

The Systems level (1) recognises human society in the biosphere as the highest level system that is considered when planning. It is the system that needs to be sustained. Level (2), Success, is defined as compliance with the four Sustainability Principles. At the Strategic level (3) planning is aided by backcasting from success, being used as a guideline to prioritise actions. The actual realised actions fall into the Actions level (4) and at the Tools level (5), tools are chosen and used for examining the system, maintaining a strategy, and implementation. This planning path serves as a method to move towards sustainability in any complex system (Robèrt 2000; Broman, Holmberg and Robèrt 2000).

The FSSD helps clarify between the actual goals (success level), actions taken to achieve those goals (actions level), guidelines for selecting and prioritising those actions (strategic level), and tools that can be used throughout the process (tools level).

### 1.3 Products and the Sustainability Challenge

Product design, manufacture, marketing, sales, distribution and disposal of products drive economies and growth (Constance 2005). The profits made through every step of the supply chain of a product’s creation until its end of life contribute to economic progress for nations. The economic result that is reported by economists is Gross Domestic Product (GDP), the world’s prevailing measure of economic throughput (Pearson 2010). In the current economic model, a country’s economic activities that cause negative impacts to environmental and social systems are counted positively towards a country’s financial success within the GDP. When money is exchanged to mitigate environmental damage, the GDP is increased. At the same time, a product’s effect on the environment is not paid by product designers, manufacturer, or the purchaser of the product. Economies and businesses “view (...) value creation narrowly, optimizing short-term financial performance in a bubble while missing the most important customer needs and ignoring the broader influences that determine their longer-term success” (Porter and Kramer 2011, 64).

It has been estimated that, on average for every product produced, 93% of the mass flow of mined and grown materials is lost in the construction and
extraction phases and only 7% ends up in the actual product (Hawken, Lovins and Lovins 1999). This implies that product design plays a hefty role in the unsustainable systems in place today. “The sustainability challenge is a design issue. Eighty percent of a product, service, or system’s environmental impact is determined at the design stage” (Thackara 2006, 17).

### 1.4 Sustainable Product Design Approaches and Tools

Sustainable product invention, design, and innovation are needed in order for society to move towards sustainability and meet today’s needs without preventing the needs of future generations being met (Brundtland 1987). Product design should support human well-being indefinitely (Thorpe 2007). Without moving towards sustainable product design, it is difficult for a branded design company to contribute value to a sustainable society.

Approaches and tools that focus on sustainable processes throughout the entire product development process continue to be designed and utilised with varying degrees of success.

There are a vast number of tools, methods, and concepts that intend to integrate sustainability into product design. A literature study mapped out and analysed 150 different tools found in business and engineering journals (Baumann, Booms and Bragd 2002).


These tools and methods address sustainability related constraints in the design process so that designers can be innovative, creative, and mindful of human needs and the environment at the same time. However, most existing tools and concepts have gaps. They do not include social aspects; are limited to specific environmental impacts of products; or lack in addressing strategic, whole-systems thinking perspective requirements to
move towards sustainability (Thorpe 2007). Tools that do take this approach, and are guided by the FSSD are the TSPD (Ny et al. 2008), the MSPD, and the Strategic Life Cycle Assessment (SLCA) (Byggeth, Broman and Robèrt 2007).

1.5 Brand and its connection to human needs

Many products that are designed are sold under a particular brand name and image. The concept of brand initially came from the old Norse word “brandr”, which meant ‘to burn’. Nordic farmers used a hot iron to make a mark on their cattle to distinguish ownership. In the Middle Ages, displays of city, guild, and craftsman signs were used to differentiate manufacture and quality. In the following centuries various products, particularly those with a longer shelf life, were given some sort of label or imprint to recognise its maker. The majority of products designed probably served to satisfy human needs (Riezebos, Kist, and Kootstra 2003). Human needs are defined by Max-Neef as: subsistence, protection, participation, idleness, creativity, affection, identity, freedom, and understanding. These are all intrinsic needs for human social, mental and physical well-being that require satisfiers, i.e. means or approaches to achieve human needs and wants (Max-Neef 1991).

With rising industrialisation and mass production capability from the 18th century on, a shift occurred for companies from simply satisfying human needs to selling more goods to many people. The range and quantity of invented products introduced a new way of living (Klein 2001). Companies needed to convince people they needed to buy new products, such as automobiles or telephones. Since some products were virtually identical in functionality and appearance to others on the market, there was a need to create a distinctive mark representing the producer (Riezebos, Kist, and Kootstra, 2003; Klein 2001). “The identification of a company with the new product being brought to market became synonymous with its brand identity” (Klein 2001, 5).

Brand, in the 20th century became a primary selling point through an emerging advertising industry. The advertising no longer focused on selling a product, but selling the image, identification and meaning of the brand (Klein 2001). Many customers have shown interest in purchasing ‘brand’. It has become the reason to buy products for many consumers. Consumers purchase a sports team brand, city brand, a cute figure brand, or a lifestyle.
“Brand presents consumers’ perceptions about a product and its performance” (Belz and Peattie 2009, 163).

1.6 Branded Design Companies and Sustainability

A branded design company’s future success will depend on whether it incorporates a whole-systems thinking perspective; how it adapts with the interconnected socio-political trends; and how it can address the impending global sustainability challenges (Brady 2003; Aacker 2010; Belz and Peattie 2009).

Some successful branded design companies understand their responsibility to society: “Every brand’s ‘social’ responsibility is unique, not just to the business segment it operates in, or to its own operational impact, but unique to the promises that brand has made, and unique to the delicate framework of trust that it has established with its stakeholders” (Kitchin 2003, 315). There is a consensus that a brand is measured by its honest and transparent communication of its sustainability engagement aims and limitations (Kitchin 2003; Brady 2003).

There is also a compelling business case for a branded design company to move towards sustainability. Acting responsibly can have a competitive advantage by attracting and retaining customers, employees, and investors (Willard 2002; Melo and Galan 2011; Belz and Peattie 2009; Brady 2003). The path to sustainability and communicating this value-added differentiation to society and to customers can increase the reputation and worth of the brand (Brady 2003; Willard 2002). Additionally, in today’s crowded, competitive marketplace there is evidence that innovation and strategy open up new markets and are keys to long-term success (Kim and Mauborgne 2005).

Companies who develop Corporate Social Responsibility (CSR) initiatives create programmes, projects, or provide funding towards activities that have a positive impact on the environment, people, or society (Belz and Peattie 2009). CSR programmes generally focus on external projects, often in the communities in which they operate or sell their products. CSR, like company and brand sustainability, have a positive impact on brand value (Melo and Galan 2011).
1.7 Ampelmann - a Brand and its History

For the research, we worked in collaboration with the branded design company Ampelmann GmbH, located in Berlin, Germany. All information about the company Ampelmann and its historical background are from direct company sources, including a company DVD, the official website, and company CEOs and employees.

![Ampelmann lamps](image)

*A Figure 1.2 Ampelmann lamps*

Ampelmann traffic lights (see Figure 1.2) were first invented and designed in 1961 before they were installed on the streets in 1969. The initiative was taken by Karl Peglau, head of the transport psychology department in East Berlin’s Transport Senate. Having analysed accident statistics, he created the red and green traffic lights – the “Ampelmann”, resulting in a figure that is bigger, making use of more light, which resulted in greater visibility and safety for pedestrians.

After the reunification of both parts of Germany, the socialist system in East Germany was systematically removed and replaced by the Western capitalist system, including the traffic lights.

The story of the Ampelmann company begins with a West German industrial designer, Markus Heckhausen, reusing “waste” by picking up the discarded Ampelmann traffic lights from the former German Democratic Republic (GDR) in East-Berlin in the early 1990s and designing lamps out of them. These lamps began a movement to “Save the Ampelmann”. Community concern spread into cultural and political awareness and pressure to re-establish the Ampelmann lights on East German streets.
Heckhausen saw an opportunity in the brand, and through negotiations with Peglau, Ampelmann GmbH was founded in 1996.

Today Ampelmann owns and operates four retail shops, a restaurant, and supplies 150 resellers world-wide with over 600 different branded products in product categories including home, children, gourmet, stationery, mobile & safety, kitchen, jewellery, and fashion. In early 2011, the company opened a retail shop with a business partner in Seoul, South Korea. Ampelmann also has a brand licensing business and an active online store.

The company employs 62 people, of which 50 are salaried and 12 are freelancers. Additionally, Ampelmann employs 21 students. During the high season, another 10 people are employed to support the shops and the restaurant, which are all located in touristic spots of Berlin.

1.8 Aim and Scope

This thesis seeks to find answers to following research questions:

Primary research question:

How can a branded design company contribute to developing a sustainable society?

Secondary research questions (referred to as first and second research question):

1. What are major barriers and motivations for a branded design company to move towards sustainability?
2. What approaches and actions can be taken by a branded design company to transform its business towards sustainability?

*Sustainability* as referred to in the research questions is used in this thesis with the understanding as global socio-ecological sustainability defined by the four SPs (see section 1.2). *Approaches* are defined as methods or procedures and *actions* are defined as the execution of concrete steps.

The primary research question is all-encompassing that we address through directly answering our secondary research questions in our results section and further exploring it in the discussion section.
The scope includes recommendations that are geared specifically to a *branded design company*, which we define as a small and medium-sized or multi-national organisation that puts forward a powerful image to foster its identity as core meaning of its business.

This thesis does not include testing stakeholder engagement methods or design tools to innovate towards sustainability. Furthermore, we are not focusing on researching sustainability contributions particular to the tourist industry or focusing on souvenir products, even though Ampelmann is tied to this industry.

We intend to inform branded design companies that care about the value proposition of their brand and that can contribute to a sustainable society. Additionally our goal has been to help Ampelmann develop its sustainability strategy through our interaction with the company while conducting our research.
2 Research Design

This chapter presents the research methodology of this thesis, explaining the qualitative research approaches used, the interaction processes with the case study, and the different data collection methods we applied.

2.1 Research Approach

2.1.1 Qualitative Research Design

This thesis was designed using Maxwell’s key aspects of qualitative research (Maxwell 2005):

1. **Goals**: Why do we want to conduct this study, and why should anyone care about the results?

2. **Conceptual framework**: What do we believe are the current issues in settings and for people that we plan to study? What theories, beliefs, and prior research will guide or inform our research?

3. **Research Questions**: What specifically do we want to learn or understand by doing this study? What questions will our research try to answer?

4. **Methods**: What approaches and techniques will we use to collect and analyse data?

5. **Validity**: How might our results and conclusions be wrong?

The first three aspects are covered in the introduction and the last two will be elaborated in this section.

2.1.2 Action Research

Action research can be defined as “a participatory process concerned with developing practical knowing in the pursuit of worthwhile human purposes” (Reason and Bradbury 2001, 4).

Some of the answers to the research questions were co-created with Ampelmann staff. The purpose of action research is to produce practical knowledge that is useful to others. These are two aspects that describe
action research (Reason and Bradbury 2001) and illustrate the fact that a case study may be part of an action research project (Cohen and Manion 1995). Furthermore, this thesis is part of a pursuit of worthwhile purpose for humans because of the sustainability challenge society faces.

Action research addresses people’s desires to act creatively, engage collaboratively, and let solutions emerge from dialogue. It is an emergent process that requires flexibility of both researchers and participants (employees of Ampelmann involved in this research project). In our work, the participants gained knowledge and understanding of the sustainability challenge faced and the researchers received feedback on the process (Reason and Bradbury 2001). For this reason, changes along the way in the methodology we applied did occur as a result of reacting and adapting the plan to the needs of Ampelmann.

2.1.3 Wicked Problems

The nature of the problem explored in this thesis suggests that it can be considered a “wicked problem“ for which there is no single, “provably correct“ answer that can be tried and tested (e.g. in a mathematical sense).

The concept of “wicked problems” explains that research in design is always dependent upon a constantly changing context, making it difficult to re-create and test the research outcomes with control groups (Rittel and Webber 1973). Other researchers using the same methods we did but at a different point in time or in a different context would most likely obtain different results. That means that Ampelmann might have responded to our methods in another way at another point in time making this research hard to test.

2.1.4 Case Study

We worked closely with Ampelmann, applying the case study research method. Employees from all company levels and departments were involved in the joint activities, which lent valuable insight in the processes of a small and medium-sized branded product design company.

The case study research method can be defined “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (Yin 1994, 23).
Case studies support the understanding of complex issues and are recognised to be a robust research method when a holistic and in-depth investigation is required (Yin 1994). They allow multi-perspective analyses by considering the voice and perspective of involved actors and the interaction between them (Feagin, Orum and Sjoberg 1991). It is an advantage to conduct research within the context of its use (Yin 1994) and the case study research approach is an appropriate method for doing so.

Cohen and Manion (1995) list, among others, the following advantages of case studies:

- Case study data is drawn from people’s experiences and practices and so are seen to be strong in reality.
- Case studies allow for generalisations from a specific instance to a more general issue.
- Case studies can provide a data source from which further analysis can be made.
- Because case studies build on actual practices and experiences, they can be linked to action and their insights contribute to changing practice.

The specific interactions with the case subject are described in detail in section 2.2.2.

**2.1.5 ABCD Process**

We structured our action and case study research with the ABCD Process and took the case study company through all four steps. The ABCD Process is a strategic management planning tool used to backcast from a vision of a sustainable future constrained by the four SPs outlined in section 1.2 and guided by the FSSD. Steps when applying the FSSD to an organisation include (Holmberg and Robèrt 2000; Robèrt 2000; Ny et al. 2006):

- **A-step ("Awareness"):** 1. Creating a shared understanding of the socio-ecological system and the organisation within it, the sustainability challenge and the concept of backcasting from the SPs. 2. A-step is defining success by creating a vision for the organisation within the constraints of the SPs.
- **B-step ("Baseline Analysis"):** Assessing the current reality of the organisation within the biosphere in relation to success.
• **C-step ("Compelling Vision")**: Brainstorming actions and measures for the organisation to move towards success.
• **D-step ("Down to Action")**: Strategically prioritising the actions and developing an action plan moving the organisation towards the vision.

### 2.2 Data Collection

As qualitative studies rely on the integration of data from various methods and sources in order to ensure validity (Denzin 1970), data collection methods included literature survey and the following interaction methods.

#### 2.2.1 Literature Survey

A broad literature survey was conducted to explore the challenges faced by branded design companies when moving towards sustainability and to find possible solutions that could serve to overcome them.

We conducted searches in several academic databases, read peer-reviewed articles, reviewed past BTH theses, doctoral dissertations, and books related to topics including: behavioural change, consumerism, cost versus value-driven design, product branding, product development, product innovation, product-service systems, CSR, sustainability marketing, and sustainable product development and tools.

#### 2.2.2 Interacting Methods with the Case Study

Two weeks were spent working with the case study company in Berlin (14 – 18 February 2011 and 5 – 9 April 2011) conducting interviews, presentations, workshops and feedback meetings, and taking Ampelmann through a strategic management planning process towards sustainability that is covering the steps of the ABCD Process. Additionally, several Skype meetings with the CEOs took place. Email correspondence, evaluation surveys, and tasks were given to the employees to increase their engagement and awareness, and to validate our work. The interaction was in both German and English to ensure understanding, but all data was translated into English for the purpose of analysis.

The selection of the people interviewed and participating in the workshop was done with purposeful sampling, a strategy in which particular persons are selected for the important information they can provide (Maxwell
At least one employee from each department and level was integrated into the process.

Kotter (1995) and Doppelt (2003) acknowledge the importance of the involvement of people from every function, department and level in change processes who normally do not work together, which can reveal problems and bring fresh perspectives and ideas to overcome barriers providing valuable input.

**Presentations**

At the beginning of both weeks in Berlin, we held a presentation at the Ampelmann office. The first week, 23 employees and both CEOs attended. The second week, 12 employees plus the CEOs participated.

In the first week, the main content of the presentation was the plan of the overall thesis project, the sustainability challenge, and the business case for sustainability. The purpose was to create a shared understanding of sustainability among the employees and to engage them from the beginning of the process. In the second week, the results of our Baseline Analysis of Ampelmann’s sustainability performance were presented, (see Appendices A and B for excerpt of analysis). The purpose was to present to the company a clear picture of their sustainability status.

**Open question interviews**

Open-question interviews with 24 employees from each department (Office Manager, Accounting, Product Design, Graphic Design, Web Design, Packaging Design, Logistics, Shop Management, Marketing, Media/Public Relations, Sales, Procurement, Technical Support, IT Support, Restaurant Manager, Chef, Waitress) and the CEOs were conducted in Week I (questionnaire can be found in Appendix C).

The purpose of this first series of interviews was:

- to gather information about internal processes, departments, and structures
- to learn about Ampelmann’s culture, vision, current operations, and the inter-departmental processes and the product design process
- to identify Ampelmann’s current practices and processes of product design
- to identify barriers and motivations of Ampelmann to move towards sustainability
- to engage the employees and raise awareness and excitement about sustainability

In Week II, the intention of the interviews was to keep people who did not participate in the second workshop engaged in the process. Due to illness, only five out of the nine employees we wanted to interview were available (questionnaire can be found in Appendix D).

The purpose of these interviews was:

- to follow the mind-shift of Ampelmann employees concerning the need for sustainability
- to continue the engagement and excitement of employees about sustainability
- to integrate employees that were not part of the workshop into the brainstorming of actions process

Each interview was approximately 30 minutes in length and was conducted by one person asking the questions, following a basic script adjusted to each department, and a second person taking notes. The results of the interviews were gathered, translated, synthesised, and presented to the interviewees with an opportunity for correction to ensure validity.

*Document Content Analysis*

Documents provided by Ampelmann, e.g. product information, operational data (energy, water, paper and fuel consumption), and financial data were reviewed and provided additional information for the Baseline Analysis and answers to the first research question.

*Workshops*

The two workshops held in Berlin were intended to help the company move towards sustainability, reveal answers to the research questions, and serve as actions for branded design companies to move towards sustainability.

The first workshop held on the 16th of February 2011 in the Ampelmann Restaurant in Berlin was intended to cover the A-step of the ABCD Process. Twenty-three employees from all levels and departments and the CEOs took part in this workshop. The World Café methodology was
chosen (Brown, Isaacs and the World Café community 2005), and the essential parts were a visioning process and a product analysis process against the SPs to foster the understanding and to create awareness about sustainability. Detailed information about this workshop is outlined in Appendix E.

We developed a workshop for Week II titled “Crazy Creative Product Design Workshop” based on what we learned during our interaction with Ampelmann. The focus was engaging activities to spur creative ideas towards innovating and selling products for a sustainable future culminating in a brainstorming session (C-step of the ABCD Process). The primary workshop goal was to inspire actions and measures for the company to move towards sustainability. This workshop was held on the 6th of April 2011 at the same location and 20 employees including the CEOs participated. More information is outlined in Appendix F.

During the first workshop, we served as educators and facilitators. At the second workshop, our role was primarily to facilitate and also to participate in the brainstorming activity. We harvested the discussed points through large flip-chart papers that the participants could write on and gathered findings through note taking.

**Forum and research tasks**

An online forum was created to keep Ampelmann employees engaged in the process of moving towards sustainability; to inform the brainstorming of the second workshop; and to provide them with a tool to discuss and co-create solutions for sustainability related challenges. Resources were given (links to organisations, projects, products, videos, and studies) and each participant had one research task to fulfil two weeks before the second workshop. The resources and research tasks mainly focused on the following topics and most of them were initially in English language: more sustainable materials, waste to resource, product-service systems, value-driven design, multi-functionality, green washing, green marketing and communication, and sustainable product innovation.

**Feedback meetings**

Seven feedback meetings, both in person or via Skype (pre and post Berlin) were held with the CEOs to ensure the quality of the project and to be able to adapt and make changes along the way as needed. These meetings
provided input surrounding barriers and motivations, possible actions towards sustainability, and the collaboration itself.

Evaluation surveys

After each week spent with the case study company in Berlin, an evaluation survey was created to verify if our processes encouraged participant engagement, raised awareness, and provided useful content.

Survey 1 (Appendix G) was sent out to 31 people who attended the presentation, were interviewed, and/or attended the first workshop, and 26 employees completed it in total.

Survey 2 (Appendix H) was given out to the 20 participants of the second workshop, as non-participants were interviewed separately and were not able to evaluate the workshop. Nineteen participants completed this survey.

Prioritisation Meeting

A prioritisation meeting was held with the CEOs of Ampelmann on the 7th of April 2011 to start the process of creating a sustainability action plan (D-step of the ABCD Process).

The prioritisation process was essentially based on the level of compliance with the sustainability principles and by answering the following questions (Holmberg and Robèrt 2000):

- Is this action going in the right direction?
- Is this action a stepping stone for further action?
- Is this action achieving sufficient ROI to fuel further actions?

Additional criteria tailored to the needs of branded design companies, based on the barriers and motivations found during the Baseline Analysis, were established and added to the prioritisation criteria outlined in Appendix I. Ten actions (results of the brainstorming of the second workshop) were prioritised and ranked in a meeting with the CEOs to get familiar with the process and evaluate it at the same time.

Observation

Observation was used throughout the interaction with the case study company. Notes about reactions and interactions of employees in
interviews, meetings, and workshops were taken and provided insights for our Baseline Analysis as an essential part of our research.

### 2.3 Data Analysis

Maxwell (2005) recommends that data analysis should be done simultaneously with data collection in qualitative research in order to focus interviews and observations and to adjust methods along the way. In this thesis, three analysis methods were used: qualitative analysis, Internal Baseline Analysis (excerpt in Appendix A) and External Baseline Analysis (excerpt in Appendix B).

In order to create the Baseline Analysis (B-step) and to answer our first research question, information collected through the different interaction methods with the case study was analysed with the two Baseline Analysis Matrices that combine criteria of the Sustainability Principles and a SWOT, a PESTLE and Stakeholder Analysis (Hill and Westbrook 1997; Pojasek 2008) to reveal barriers and motivations faced.

The barriers and motivations were categorised and generalised to be applicable for any branded design company. We conceptualised the operations of the company as a house with flows coming into and out of it with the help of asking the following questions (respective to the arrows, see Figure 2.1):

1. What do branded design companies depend on?
2. What do the operations of branded design companies look like?
3. What does individual behaviour influence?
4. What do branded design companies deliver?
5. Whose (stakeholder groups) needs are fulfilled?
6. What do branded design companies leave behind?
7. Who is influencing and has impact on branded design companies?

This process revealed the internal and external company divisions that build the larger system in which a branded design company exists (see Figure 2.1). We grouped our barriers and motivations under these divisions (in bolded text). The elements listed (in italics) are important company areas and stakeholder groups that play integral roles within various divisions. The striped arrows represent the possibility of closed-loop systems for company materials and products to aim for, in order to move towards a sustainable future.
To answer the second research question, brainstormed actions with Ampelmann, actions applied to the case study, and additional actions and approaches derived from literature were categorised (company management, operations and processes, products and materials, brand) and made applicable to any branded design company in general. We did not attempt to prioritise the actions, as this process depends on each specific case and context.

2.4 Validity Testing

To ensure that data collected and analysed was consistent throughout; that inconsistencies were pointed out and dealt with; and that critical thoughts about how the results and conclusion might be wrong were included, we validated the results by using three forms of triangulation and multiple sources of evidence (Denzin 1984, Yin 1994).

- **Investigator triangulation**: Each of us gathered and interpreted data. The findings were cross-analysed for similar investigations and inconsistencies.
- **Theoretical triangulation**: We looked at several theories that underpin the research and interpretation of data.
• **Methodological triangulation:** We gathered data from interviews, observations, documents and literature review.

In attempting to answer the research questions, we collaborated with one specific case study and cannot ensure general validity for other branded design companies taking into consideration circumstances that may continually change (Yin 1994).

Evers and Wu (2006), although recognising that generalising from a single case is a complex and difficult matter, have three arguments that support the validity of our approach.

1. Structure, including external factors such as culture, theory, practices and regulative rules commonly imposed on cases is often the same for similar cases and can therefore serve as a basis for similar judgments.
2. Knowledge that researchers bring to a case, especially about external factors, should ensure that pre-determined outcome expectations do not bias actual outcomes.
3. Inquiry combined with dynamic circumstances should reduce possibility of matching patterns between researcher expectations and observed outcomes to be sheer coincidence (Evers and Wu 2006).

We are aware of the difficulties, especially as Ampelmann is a very unique branded design and licensing company, but taking Evers and Wu’s (2006) arguments into account, we believe that the research through and with Ampelmann can identify recommendations for other branded product design companies to help them to move towards sustainability. It needs to be acknowledged though, that based on multiple variables, such as company size, business volume, culture etc. only restricted generalisation can occur and results may or may not be applicable or relevant for any branded design company.
3 Results

3.1 Major barriers and motivations for a branded design company to move towards sustainability

Major barriers and motivations derived from the case study results are listed in Figure 3.1 and Figure 3.2.

<table>
<thead>
<tr>
<th>Company Divisions</th>
<th>Barriers</th>
</tr>
</thead>
</table>
| Organisational structure and processes | • No defined company vision incorporating sustainability  
• No full strategy to achieve sustainability  
• No direct control of manufacturing of products  
• Hesitancy and slow movement to allocate ongoing resources |
| Brand                             | • Strong brand reputation and company success  
• Sustainability-minded consumer markets have not been investigated  
• Current price setting constraints |
| Materials and products            | • Higher cost of more sustainable materials and production  
• Few viable, more sustainable material options  
• Government rules and regulations |
| Energy                            | • Reliance on other entities for energy                                                      |
| Individual behaviour              | • No full understanding of sustainability or the sustainability challenge  
• Fear of untrustworthy supplier behaviour  
• Beliefs concerning prices, customers and opportunities  
• Gap of knowledge about need for change and action  
• Perceived risk of being accused of green washing |
| Customers                         | • Risk of losing current customers  
• Little customer awareness or concern for sustainability                                      |
| Suppliers, vendors and supply chain | • Vulnerability to supply chain unsustainable practices  
• Deceptive but accepted supply chain practices |
| Competitors                       | • No direct competition                                                                      |
| Media and NGOs                    | • Increased exposure to and accusation of unsustainable products and practices               |

Figure 3.1 Barriers for a branded design company to move towards sustainability
3.1.1 Organisational Structure and Processes

Barrier: No defined company vision incorporating sustainability

The CEOs acknowledged interest in and need to define a vision and this process was initiated in Week I. Most workshop participants named sustainability as an important component. However, at the time of thesis completion, it had not been decided whether the company vision will include sustainability.

Having no clear vision incorporating sustainability is a primary barrier: “Organizations struggling to adopt a sustainable path usually lack clarity about what they are striving to achieve (...) [w]ithout a clear vision. (...) Sustainability is a forward-looking vision that excites people and elicits their full commitment and energy“ (Doppelt 2003, 3).
Barrier: No full strategy to achieve sustainability

Both Ampelmann CEOs state they make final decisions based on feelings and intuition without a strategic approach. This instinctual decision-making process has served the company well to date proven by financial and reputational success. Before our collaboration, the company had already taken many individual actions, yet there had been no defined sustainability strategy. The company is currently developing a plan. Strategy and planning are considered vital drivers towards business excellence and towards sustainability for any company (Pojasek, 2008d).

Barrier: No direct control of manufacturing of products

Ampelmann is a medium-sized branded design company that does not manufacture its own goods and management expressed concern of not having complete control over production. Ampelmann makes efforts to choose trustworthy suppliers who are reputable and have up-to-date social and environmental standards and certifications in place, but direct and full control of how things are produced is not possible. A company who designs and sells products, but outsources its production does not have control to ensure all possible steps towards sustainability are taken.

Barrier: Hesitancy and slow movement to allocate ongoing resources

Ampelmann has not yet allocated dedicated resources, such as time, budget and manpower to develop the knowledge and plan to move strategically towards sustainability. While employees and management do investigate and take some actions, many noted a lack of time to prioritise sustainability. Employees are busy with their designated functions and tasks.

One of the two CEOs, although interested in moving towards sustainability, recognises that a thorough analysis and strategy is necessary. With his current pressing schedule, this will take some time. The decision to shift the brand to be aligned with sustainability must be done in a way that makes good business sense. He stated it is important to move carefully while analysing and developing a marketing and sales strategy in conjunction with sustainability to ensure success. He continued that the bottom line is that the more sustainable products must sell and that the customers must be brought along as well. Allocation of resources is an important commitment to sustainability but not always possible immediately, depending on the
particular situation of a company. The inability to allocate resources, whether for financial reasons or the need for time to develop strategy, can be a barrier for branded design companies. “Sustainability isn't about the quick fix. (...) Generally it means making a commitment and trying, as best we can to honour it” (Schuler 2009, 136). The strategy itself takes time.

Motivation: Company interest in and understanding of sustainability action

Ampelmann management, while still in the analytic stages of devising strategy before making a full commitment to sustainability, has clear interest in moving in the right direction, as illustrated by the actions and plans to date (e.g. introduction of recycled plastic shopping bags, decision to use organic cotton for 95% of the t-shirt production, etc.). Also, the interest was substantiated by willingness to spend some company time and resources over a period of four months to serve as the thesis case study and to delve into the possibilities of Ampelmann moving strategically towards sustainability. Interest, when high enough, can provide the motivation to engage at a deeper level and do full strategic planning. When management and employees have a common interest and goal, this serves as a motivation to action (Senge 1990) providing synergy towards sustainability.

3.1.2 Brand

Barrier or motivation: Strong brand reputation and company success

Ampelmann has a successful brand. Therefore, many employees do not see a risk in not changing the company’s current business strategy. They also see no immediate risk in NOT moving towards sustainability. With its positive reputation and strong social license to operate, there is no dire need to make changes from a business perspective. Brand success can hinder movement in the right direction because there is validation of society of conventionally produced products and services.

Having a strong and successful brand can also serve as motivation to take steps toward sustainability. It can be a strategic time to look towards opening new markets that follow current trends (Kim and Mauborgne 2005). An underlying motivation is having solid revenue from sales in the company’s current markets but already looking to the future towards a sustainable society.
Barrier: Sustainability-minded consumer markets have not been investigated

While sustainability is of interest to Ampelmann, there has been no “sustainability-minded” customer analysis performed. A barrier for a company may be the lack of analysis and knowledge of this growing market.

Barrier: Current price setting constraints

According to Ampelmann’s analysis, 90% of its customers are tourists looking for souvenirs and having no interest in more sustainable products. Employees stated price setting constraints as a barrier for the brand in the tourist market where customers are unwilling to pay a higher price for more sustainable products. Price constraints in markets where customers are used to paying prices that do not reflect true life cycle costs of products can be a barrier.

Motivation: Understanding of relationship between brand reputation, sustainability, and new market opportunities

Many Ampelmann employees share the understanding that brand reputation is strengthened by alignment with sustainability, especially because of the origins of the company and the brand meaning. A product design company can be motivated when it understands the opportunities that open up when aligning brand with sustainability.

3.1.3 Materials and Products

Barrier: Higher cost of more sustainable materials and production

Ampelmann management and employees stated that a significant challenge to move towards sustainability is higher costs of more sustainable production. For example, the organic cotton t-shirts they will produce cost 15% more than non-organic. While German ceramic mug and organic cotton producers exist, Ampelmann’s product lines are at a price point in the market that would make it economically not possible to switch to local or in-country production. Also, the scale of product orders could not be fulfilled regarding Ampelmann’s current market size. The production for these products currently requires overseas production. Some employees also stated the need of having other criteria equal to price in the
procurement process. This barrier for companies that hinders sustainability is taking a *cost-driven approach to purchasing.*

**Barrier: Few viable, more sustainable material options**

Apart from cotton, the most commonly used materials for Ampelmann’s products are acrylic, polyester, polycarbonate, hard PVC, polypropylene (all petroleum-based), aluminium, and nickel-free coated iron. All these materials present sustainability challenges for production. Finding more sustainable solutions for the company is a difficult process because more sustainable options are currently hard to find. More sustainable material and material management options are not readily available for production for many companies. However, this barrier is being addressed more and more as sustainability becomes crucial for society and for the environment and more product design companies, governments, and customers demand them (Willard 2005).

**Barrier or motivation: Government rules and regulations**

*The need to comply with rules and regulations regarding materials and products* for Ampelmann can be a barrier. An example is in the Ampelmann Restaurant, where industry-specific regulations exist that require certain cleaning products to ensure that minimum health and safety standards are met. These products ensure hygiene directly on-site but also can be harmful to humans and the environment downstream (e.g. chlorine). Material and product rules and regulations can also provide motivation to move in the right direction through compliance requirements. It can provide further motivation for companies aiming to be an industry leader who anticipate future regulations driving innovation towards sustainability (Willard 2005).

**Motivation: Awareness and knowledge of more sustainable options**

There is increasing interest and excitement about sustainability at Ampelmann. There is continued drive to find *local and regional manufacturing options with fair pricing.* Also helpful is the freedom given to the designers to research and test new materials. *Growing awareness and knowledge of sustainability opportunities* can lead to more commitment, inspiration, and action for a branded design company (Kollmuss and Agyman 2002, Willard 2002).
Motivation: Early successes through actions fuel motivation to do more

Ampelmann’s early successes with sustainability provide impetus to do more: A switch from a national packaging supplier of boxes to a local supplier of 100% recyclable boxes reduced costs by 30% and evokes motivation for more sustainability success. For a branded design company, successful endeavours can inspire further steps in the right direction (Dunphy, Griffiths and Benn 2003, Pojasek 2008b).

Motivation: Decreasing amounts of finite natural resources

Ampelmann management and employees do not see decreasing finite natural resources and increasing costs as an immediate concern for the company. Sufficient scientific evidence (Aleklett et al. 2010) and company-wide belief exists that, within the next decade, this can become a problem. Decreasing resources can directly affect energy prices, which, in turn drive up manufacturing costs. In most cases design companies, apart from choosing their suppliers, do not have direct influence on what type of energy is used for production. However, awareness of the amount of energy and material needed to produce products and the probability of shortages in the future can motivate branded design companies to move towards sustainability.

3.1.4 Energy

As energy for manufacturing is addressed under the motivation: Decreasing amounts of finite natural resources (previous page), this category is solely focused on energy within a company’s facilities.

Barrier: Reliance on other entities for energy

Ampelmann has made the commitment to purchase 100% renewable electricity. However, the company must rely partially on district heating available through the facilities’ property owners, resources companies, and the city of Berlin. This means it also uses a mix of fossil fuels and biomass. For companies, until renewable energy alternatives are fully available in urban settings, unavailability of more sustainable options can be a barrier.

Motivation: Return On Investment (ROI) through energy efficiency

Ampelmann has purchased energy-efficient equipment and employees are mindful of energy use in the facilities. Also an induction stove in the
restaurant was installed, which is a more efficient solution that provides financial ROI. Energy efficiency measures reaping ROI can motivate companies toward sustainability.

### 3.1.5 Individual Behaviour

We observed and noted individual human behaviour that can result in barriers and motivations for moving the company toward sustainability. They are acknowledged to underlie many company barriers and motivations.

**Barrier: No full understanding of sustainability or the sustainability challenge**

At the beginning of Week I, the interview outcomes indicated that there was not a full understanding of sustainability. Answers were about waste reduction, recycling products, reducing consumption, and a tool for marketing. In general, company management and employees may also not see the connection between the company’s products, services, and activities and the sustainability challenge (Kollmuss and Agyeman 2002).

**Barrier: Fear of untrustworthy supplier behaviour**

Several employees indicated concern that they may not be able to trust the authenticity and transparency of suppliers related to materials for their products. The concerns came from cases of other branded design companies who had done business with overseas suppliers being dishonest about both materials and human rights practices (Boggan 2001; Brambusch and Grassegger 2010).

**Barrier: Beliefs concerning prices, customers and opportunities**

There is an underlying belief of individual Ampelmann company members that pursuing sustainability for a company and manufacturing more sustainable product solutions is expensive. Employees also perceive that customers believe more sustainable products cost more to produce and will have a higher price tag. Another belief of some employees is that there is no further room for company improvement towards sustainability. These beliefs can be driven by insufficient knowledge, interest, inability, or unwillingness to create innovative solutions (Kollmuss and Agyeman 2002).
Barrier: Gap of knowledge about need for change and action

A barrier underlying company business decisions is a gap between a person’s knowledge and concern about the company’s role in contributing to the sustainability challenge and taking action to do something about it. Also, the assumption that more knowledge of individuals will lead to more eco-conscious behaviour does not necessarily occur (Jucker 2002; Kollmuss and Agyman 2002).

Barrier or motivation: Perceived risk of being accused of green washing

Perceived risk of being accused of green washing can be either a barrier or motivation to move towards sustainability. Ampelmann employees mentioned the concern that if sustainability is a half-way endeavour yet would be used for marketing purposes, then the company risks being accused of green washing. This can be a barrier if a company decides to NOT move towards sustainability at all because of this accusation risk. Or, the risk can be a motivation if the company takes concrete steps and then communicate them honestly and transparently to prevent accusation (Willard 2005).

Motivation: Personal life and children

Some employees and the CEOs stated that they are concerned about the future of their children. Having children or having a relationship with children in one’s environment can be a motivation for companies to move towards sustainability.

3.1.6 Customers

Barrier: Risk of losing current customers

Ampelmann may have concern of losing current customers if production of more sustainable products increases the sales costs. Tourists and resellers may impose pressure on Ampelmann or simply not buy the products. This concern can be a barrier for many branded design companies.

Barrier: Little customer awareness or concern for sustainability

Ampelmann employees and CEOs mentioned an underlying barrier related to customers who have little awareness or concern for sustainability.
Branded design companies may face customers who demand *current products and services with little interest or knowledge of sustainability*.

*Motivation: Seeing opportunities in value-driven sustainable products*

Ampelmann does see an *opportunity to develop higher-end, more sustainable products and open up new customer markets on a national and international level* where there is less price concern. Recognising a link between sustainability and business opportunity can be a strong motivation to develop strategy towards sustainability for branded design companies. If companies see *options in becoming a value-driven company* and *in opening new markets to drive sustainability efforts profitably*, these are significant motivations (Willard 2002).

*Motivation: Increasing customer concerns about and interest in more sustainable products*

Ampelmann is increasingly confronted with *customers asking about the products origin, the production process and the materials used*, which could give motivation for the company to move towards sustainability.

**3.1.7 Suppliers, Vendors and Supply Chain**

*Barrier: Vulnerability to supply chain unsustainable practices*

A barrier for Ampelmann is the possibility of being susceptible to unsustainability within its supply chain. This can occur at any time for any branded design company that does not control production, but it is especially of concern when business growth leads to increased overseas supply chain business. Additional contributions to unsustainability are currently inevitable because of shipping and transport of products.

*Barrier: Deceptive but accepted supply chain practices*

Ampelmann disclosed that some German suppliers of finished products actually receive the unfinished product from overseas, yet regulations allow that company to label the product “Made in Germany”. They can do this as long as the largest portion of added value occurs in Germany (e.g. the actual painting and design of ceramic mugs). This can be a barrier, since the design company is unsure of how and where the product is made and, in turn, the customers are misled of the product’s origin.
**Motivation: Trustful, lasting relationships**

Ampelmann’s successful, long term relationships with trusted suppliers that hold credible certifications and honour social and environmental standards can be a motivation to move further towards sustainability. There may be opportunities for a company to discover new opportunities with supplier partners to move together towards sustainability, sharing costs and risks.

### 3.1.8 Competitors

**Barrier: No direct competition**

Ampelmann states that currently there are no direct competitors that pose a risk for Ampelmann. Therefore, there is no immediate competitive advantage in moving towards sustainability. Although there are many other branded design companies that carry competitive products and a broad range of souvenirs available and sold in Berlin, Ampelmann, with its socio-cultural brand meaning combined with a higher quality, chic design and marketing, represents a unique niche with no direct comparable competitor.

**Motivation: Become market leader**

A motivation for Ampelmann to move towards sustainability is the possibility that a competitor may emerge with more sustainable products in the future, which could take market share from Ampelmann. Companies are constantly at risk of new companies, brands, and product concepts emerging in a highly competitive and crowded marketplace (Kim and Mauborgne 2005).

### 3.1.9 Media and NGOs

**Barrier: Increased exposure to and accusation of unsustainable products and practices**

Media and NGOs may increasingly expose products or activities of Ampelmann or other branded design companies that are environmentally damaging. This could result in a reduced ‘license to operate’ within the community (Willard 2005).
Motivation: Public acknowledgement of efforts to move towards sustainability

If Ampelmann or any other branded design company moves towards sustainability, the company may be highlighted positively by media or NGOs, which supports and affirms its efforts regarding sustainability. This can strengthen the brand’s reputation and create further impact in the marketplace.

Identifying these barriers and motivations provided further support of our case study company results towards answering our second research question.

3.2 Approaches and actions that can be taken by a branded design company to transform its business towards sustainability

The approaches and actions that can be seen in Figure 3.3 were derived from activities that we applied ourselves, brainstorming with the case study company, the results to our first research question, and through information and knowledge we gathered from our literature survey. The strategic management planning process we led the company through is an overarching approach that helps a company transform its business towards sustainability. Many of the results detailed in this section are part of this process or were derived through this process.
3.2.1 Company Management, Operations and Processes

This section addresses many approaches and actions in the areas of management, operations, and process for branded design companies.

Generate company-wide commitment

We experienced that integrating people from every department and function in the process can lead to commitment and action. Positive enthusiasm from all Ampelmann participants indicated that company-wide engagement is a successful approach. Employees were inspired through our activities. When there is full commitment, barriers can be removed because a company will allocate resources necessary to move towards success strategically. Change requires great commitment. Two powerful steps that a company can take are developing a sense of urgency around the need for change in the entire company and thereby forming a powerful internal coalition (Kotter 1995). Generating company-wide commitment means embedding a whole-systems thinking approach to move all products,
services, communications, and brand representation towards full sustainability.

Research and ask the right questions

Ampelmann employees expressed that they feel the need to ask more questions, research more sustainable materials, and ensure their suppliers’ authenticity. We created for Ampelmann a forum to address these needs. It is suggested that an interactive *electronic information-gathering platform in the form of a forum, blog, wiki, etc.* be introduced within a company. These kinds of platforms can support an open environment for asking and sharing questions, and exchanging ideas and knowledge about different sustainability related topics. Questions are an underused management tool for supporting a learning organisation. “The ability to ask questions goes hand in hand with the ability to learn. A learning organization is only possible if it has a culture that encourages questions” (Marquardt 2005, 12-13).

Allocate resources

One action that was brainstormed by Ampelmann is to hire a sustainability professional or designate regular working hours of all employees towards research. Enabling employees to move towards change the status quo needs *designated time, budget, and manpower* (DeMarco 2002).

Develop a sustainability company vision

As Ampelmann management acknowledged, creating a vision for the company and brand that includes commitment to sustainability in all aspects (core purpose, core values, envisioned future, stretch goals, and vivid description) is a powerful tool. “Compelling visions are felt in the heart and understood in the mind” (Doppelt 2003, 4). A clear vision gives all individuals in the company an understanding of what a company wants to achieve. Goals and actions then make sense and are easier for employees to support and follow (Kotter 1995).

Brainstorm actions

Employees expressed that brainstorming sustainability actions for Ampelmann enabled them to develop new ideas and led them to come up with many creative solutions. They were encouraged to “have the heart to think big and crazy”, as one employee expressed it. More than 150 actions
were brainstormed. Through brainstorming new ideas, no matter how crazy, can lead to creative options and innovations. This does not mean that all brainstormed ideas must be implemented. All ideas can contribute value. Some ideas are directly implementable and other ideas can provide inspiration towards implementable ideas. Synergies can emerge in a brainstorming leading to superior thinking. Elimination of immediate judgment can create high-quality and original ideas and quantity leads to quality (Osborn 1957).

Develop company standards, guidelines, and policies

Ampelmann has guidelines, processes, and policies incorporating certain sustainability aspects. They have not been written down, but there is the intention to do so. Suppliers are questioned regarding certification standards (SA8000 and ISO standards, Equipment and Product Safety Act, REACH Candidate list). Recent audits of independent inspection bodies and photos from their manufacturing facilities are requested.

Employees are guided by aspects that include: no violations of laws or human rights; use of local suppliers is preferred whenever possible; products designed and sold should be functional; no products will be designed that threaten safety of children and adults; and no political party products or endorsements will be made. One exception was recently made after the 2011 tsunami and earthquake disasters in Japan resulting in a dangerous nuclear power plant crisis. Ampelmann made the decision to produce an anti-nuclear power button with revenue donations going to a NGO for children in Japan. This can be seen by stakeholders as a political statement or product. Management of a branded design company can ensure that sustainability criteria are embedded in all decision-making processes including research and development, investments, supply chain, and operations by developing standards, guidelines, and policies. By doing so, a company can become a sustainability leader within its community and industry (Grant 2008).

Engage suppliers in sustainability

Ampelmann brainstormed the action to develop and send surveys and require detailed reports from suppliers, producers and vendors regarding environmental and social performance. Another action was to control, manage, or own all production facilities in order to ensure that sustainability will be a focus in manufacturing management, operations,
supply chain, and logistics. Engaging suppliers, producers and vendors to contribute towards a sustainable society can be another approach for a branded design company to transform its products and materials towards sustainability.

**Research, choose and apply appropriate tools for sustainable product development**

Currently, Ampelmann’s CEOs base most decisions on intuition, which is an internal process that has served them well. While this has been successful to date for most product choices, sustainability has not been incorporated strategically into the company. Ampelmann designs have not required complex detailing, engineering, or process mapping to date. However, sustainability integration requires a whole systems thinking approach to design with considerable constraints and multiple considerations injected into the process regardless of the simplicity of the product (Shedroff 2009). To develop these rigorous processes, it is necessary for company management and designers to research, analyse, develop, and integrate sustainable product and service development, and innovation tools as a crucial tactical component for success (Hallstedt 2008).

**Conduct risk analysis**

We conducted a risk analysis focused on sustainability aspects for Ampelmann’s current reality and foreseeable external trends. Threats were identified caused by political, economic, social, technological, legal, and environmental aspects that were tied to key stakeholder groups of the company. It is important for a branded design company to develop a risk analysis programme for its business and reputation in moving towards sustainability. “Risk management adds sustainable value to all the activities of the organization, and contributes toward achieving the organization’s objectives. A risk management program increases the organization's probability of success, reduces the probability of failure, and decreases overall uncertainty” (Pojasek 2008, 3).

**Engage stakeholders**

Regularly scheduled stakeholder meetings help companies like Ampelmann to gain an understanding of public perceptions, concerns, trends, and realities that are constantly changing (Shedroff 2009). Developing internal and external communications that engage and inform all stakeholders of
the company’s commitment and actions towards sustainability is helpful to success. It allows a company to increase image of its brand while decreasing market risk (UNEP 2005). Stakeholders’ feedback and ideas are crucial to developing transparent lines of communication (Pojasek 2008a). Engaging key stakeholders through the strategic planning process may allow for greater understanding and appreciation of what the company must contend with in striving for sustainability to align with its vision. “Today, leading companies have started to develop an appreciation that stakeholder engagement can contribute to learning and innovation in products and processes, and enhance the sustainability of strategic decisions within and outside of the company” (UNEP 2005).

Develop and enforce a continual improvement programme

Once long-term strategic thinking towards sustainability is embedded, branded design companies like Ampelmann can develop a continual improvement programme. The Deming Cycle is the basis of many business sustainability, quality and environmental management systems to drive and sustain continuous improvement in companies through the cycle of: Plan, Do, Check, Act (Pojasek 2008b, 4):

- **Plan** – Establish the objectives and processes necessary to deliver results in accordance with the organisation’s sustainability policy.
- **Do** – Implement the processes.
- **Check** – Monitor and measure processes against the sustainability policy, objectives, targets, legal and other requirements, and report the results.
- **Act** – Take actions to continually improve performance of the sustainability management system.

Develop a rewards and recognition programme for employees

Another action branded design companies like Ampelmann can take is developing an employee reward and recognition programme related to contributions towards moving the brand and company towards sustainability (Doppelt 2003).
3.2.2 Products and Materials

Monitor and measure towards life cycle improvements

From the brainstorming with Ampelmann, ideas were developed that dealt with monitoring and measuring key aspects surrounding the full life cycle of designed products. The employees suggested to set goals to reduce energy and greenhouse gas emissions. For any company, to do this effectively, appropriate tools should be chosen. After a baseline analysis and a greenhouse gas inventory have been performed, a company can benchmark progress and set strategic goals.

Find more sustainable substitutions for product materials

Ampelmann's employees brainstormed several actions, such as replacing plastic with recycled paper bags, or alternatively using other materials like hemp and linen for their fashion line. Branded design companies can take the approach to actively research and find substitutions of conventional and toxic materials for more sustainable materials.

Integrate product-service and closed loop systems

Ampelmann has ideas to develop and innovate new systems including product-service systems (PSS) and closed loop systems. PSS ideas brainstormed included developing traffic safety education services or Ampelmann bike leasing systems. Closed loop system ideas included creating a take-back, recycling, and reuse system for products. For example, customers could bring back old t-shirts to be recycled or to be donated to an orphanage by Ampelmann, and receive a discount on another more sustainable product. Product-service systems aim to shift the focus away from selling a physical product or service to selling a combination, focusing on developing a solution to a need and not its current delivery form (Grant 2008; Isaksson, Larsson and Ronnback 2009). This approach’s impact has been found to generally improve environmental performance (Tukker, Tischner and Verkuijl 2006).

Reduce energy and use of materials

Purchasing renewable energy for use in its own facilities in Berlin is an action towards sustainability that Ampelmann has already implemented. Brainstormed actions for the future include installing solar panels, eliminating the use of fossil fuel in all transport vehicles, and buying wind
turbines. Even though Ampelmann does not own its own manufacturing facilities, it is important for the company to question its suppliers about their energy use and to analyse its current and future products and services from a full life cycle perspective, then strive for energy and material use reduction. These are examples of how a branded design company can commit to reducing finite natural resource use in its own operations and all products, services, and supply chain. To put this approach into practice, a suggested first action is to schedule a full energy and equipment analysis of operations, providing baseline information to improve upon. The next action is to complete a product and service energy analysis. Suppliers can be engaged to develop a full Strategic Life Cycle Assessment (SLCA) and develop a continual improvement plan in these areas.

3.2.3 Brand

Integrate sustainability strategy into external communications

Ampelmann sees value in communicating its sustainability efforts externally as it develops and implements strategy. Ideas the company brainstormed include: create an Ampelmann sustainability logo, display the price difference at the point of sale, and show documentaries about more sustainable production in its stores. It is important to create sustainability and brand strategy simultaneously, aligning sustainability with a branded design company’s values, practices and actions (Bemporad and Baranowski 2008). A company may develop a sustainability marketing and awareness campaign about its brand efforts that is authentic, transparent, and complete. Another approach for a company is to engage the cooperation of customers to reduce their total impact (Grant 2008). For example, Ampelmann could encourage customers to bring their own shopping bags to the shop for a discount on products.

Develop a Corporate Social Responsibility Programme

Ampelmann came up with specific CSR actions, for example, “Ampelmann Day for the Environment,” a volunteer event focused on cleaning up waste in Berlin. Other ideas included creating and sponsoring community gardens and finding specific actions to strengthen the inter-generational aspect of the brand. Branded design companies can develop a CSR programme that aligns with the company's vision, values, and that contributes towards the social improvement of society and the communities where the company does business (Bemporad and Baranowski 2008; Kitchin 2003).
Collaborate and develop partnerships

Ampelmann brainstormed an idea to develop a partnership with a local university department to find sustainability solutions for the company. Developing partnerships with schools, cross-industry companies and social institutions for this purpose can help spread awareness about sustainability while bringing more resources to find solutions to common problems, benefiting all.
4 Discussion

In this section, we elaborate on the strategic management planning process towards sustainability and its components. This process was a primary structure to inform our research. We reflect on case study outcomes and consider the general results derived to answer our secondary research questions. Furthermore we deliberate on the primary research question, share our research experiences, and comment on the research validity.

4.1 Strategic Management Planning towards Sustainability

Many businesses use Strategic Management Planning and related management systems. Incorporating sustainability into that planning process provides an important avenue to move companies towards sustainability (Pojasek 2008b; Pojasek 2008d). We took the case study company through most of the Strategic Management Planning Process by end of Week II in Berlin. The process will continue in upcoming months, as Ampelmann completes the prioritisation process and an action plan. The different components of a strategic management process are presented and discussed below for a branded design company to move towards sustainability.

4.1.1 Awareness, Commitment and Resources

A company has employees who each have specific company functions and their finite work time is used towards fulfilling that function in order to drive the company’s success. Shifting towards sustainability requires time devoted to numerous extra activities by multiple levels of employees. These activities include raising awareness, acquiring knowledge, performing risk and market analysis, developing new processes, and acquiring or developing new tools.

In many company cultures, there is a prevalent focus on efficiency in the workplace so that time and money are not wasted. Often, when a company attempts to save energy by removing meaningless procedures and discarding unnecessary paperwork, they achieve improvement in operational sustainability. De Marco believes if the focus of a company is purely continual cost reduction and operational efficiency, it reduces the ability of a company to innovate: “There isn’t time to plan, only to do.
There is no time for analysis, invention, training, strategic thinking, contemplation or lunch” (DeMarco 2002, XV-XVI). Employees need time to research, gather new knowledge, play with creative ideas, and think through options towards sustainable innovation. When senior leadership commits to a path of sustainability, allocation of resources, integrating all employees, and taking advantage of their existing knowledge and experience are crucial components.

Ampelmann measures its success partially by company growth and profit and there is understandable hesitancy to pay more for sustainable endeavours with questionable or long-term Return on Investment (ROI). At the same time, the company’s customers, including tourists and an international environmental NGO, have asked about its environmental and social record, which indicates a growing awareness in society.

There are external trends in general in the marketplace that companies need to be aware of demanding greater accountability from businesses operating in their communities (McWilliams and Siegel 2001). Banks are reviewing company records to ensure an unsullied history before loans are granted (Birbaum 2010). Also, increasing numbers of CEOs and companies are making more sustainable business, material selection, and process choices, even if it means having to adjust or decrease profit margins short-term. They see the added value long-term through potential market expansion, brand reputation, and benefit through fulfilling human needs. Examples of these strategic companies include: Zimstern, a Swiss company that has made the commitment to the path towards sustainability through use of more sustainable textiles and manufacturing processes (Wüthrich 2010), and NAU, a U.S. organic clothing design firm (parent company, Horny Toad) that gives a portion of all revenue to charity at the choice of each individual customer at purchase (NAU 2011). Within a radius of three blocks from Ampelmann’s offices, located in a thriving urban Berlin neighbourhood, there is a large eco-products store, an organic supermarket, an organic bakery, a fair-trade coffee house, and an organic ice cream shop. More and more companies are finding creative ways to make triple-bottom line choices in a bottom-line driven economy and effectively creating markets for their products.

4.1.2 Involving Stakeholders in Sustainability

It is imperative to involve a wide range of stakeholders in a company’s efforts to move towards sustainability throughout the strategic planning
phase as management identifies key components in the sustainability efforts. In doing so, the perception of the community will emanate from the company’s authentic transparency and genuine inclusiveness. Stakeholders that can be engaged in the product design and development process include employees, customers, desired customers, suppliers, vendors, community, municipality, neighbouring businesses and residents, companies who have similar sustainable goals, environmental and social activists and organisations, media, product design reviewers and associations, and representatives of the next generation (Pojasek 2008).

“Much of the guidance for finding the proper path to sustainability will come from consultation with and engagement of stakeholders. Without taking stakeholder interests into account, an organization will be at risk not only of acting unsustainably, but also of being perceived of acting unsustainably” (Pojasek 2008, 2). This does not mean that all suggestions or interests of stakeholders need to be attended to, but that there is an informative dialogue. Allowing different stakeholders a place at the table prevents potential risks in the future. The risks are highest with those individuals and groups who are not given recognition as stakeholders (Pojasek 2008).

Ampelmann is already open to ideas for products and product improvements from both employees and customers. The ideas of customers are relayed back to the Ampelmann offices. If Ampelmann develops a stakeholder engagement plan that is inclusive, transparent, and open, this would enhance its ability to stay abreast of external trends, risks and opportunities. It could also address the concerns and interests of those stakeholders through business operations and through product design.

“It is generally believed that to be effective communicators, people must learn to view situations from the perspective of others prior to making judgments or decisions” (Pojasek, 2008a, 22). A company’s ‘license to operate’ is dependent on its business practices combined with its relationship with stakeholders (UNEP 2005). This approach aids the path to consensus and understanding. Individuals and groups are less prone to resist ideas and change if their thoughts have been heard and included (Pojasek 2008c). Brand value is tied to the perception of the company of the surrounding community and its various stakeholders.
4.1.3 Creating a Vision

A genuine vision that incorporates sustainability creates meaning and a larger purpose that employees can share, feel empowered by, and be motivated to contribute to (Kotter 1995; Senge 1990). Our work with Ampelmann supported this idea. During our first workshop with the company, the employees were enthused and motivated by the process of formulating a vision and many of the participants named sustainability as an important vision component.

The process of developing a vision for a company includes creating a mission statement (core purpose), core values and an envisioned future. The planning of an envisioned future can incorporate sustainability as a constraining frame of all company goals and should include stretch goals, also named Big Hairy Audacious Goals (BHAGs) (Collins and Porras 1996; Willard 2002). These are goals that are far-reaching, difficult goals that require strategic thinking and hard work to attain. The employees of Ampelmann enjoyed coming up with highly creative stretch goals and appeared to be genuinely interested in attaining them. This is consistent with Collins and Porras’ (1996) and Senge’s concepts that a company is fuelled by a higher aim. “The gap between vision and current reality is (...) a source of energy. If there was no gap, there would be no need for any action to move toward the vision. Indeed, the gap is the source of creative energy. We call this gap creative tension” (Senge 1990, 134).

Ampelmann is involving as many employees as possible in creating its vision, as management recognises that this makes good sense. However, since our on-site work, the company has not had the time to continue the process due to several occurrences that have taken extra management and employee time to mitigate. Creating a shared vision takes time and effort and it is most effective to let it emerge through the whole company. The process of inquiry and testing the vision, so that employees understand and align with it, are crucial (Senge 1990). It will be important, though, for the company to work further on the vision in a concentrated fashion to ensure that the process does not end up on a back shelf indefinitely. To act quickly and decisively and create a vision in a short, focused time period is inspirational. A retreat or week where company time with many employees involved and with external professional facilitation is an effective way of creating a vision (Brightfelt 2011).
4.1.4 Baseline Analysis

Analysing the current reality of a company and then comparing it to a company’s vision provides understanding of the gap that exists between them. This analysis includes mapping out internal operations and external influences through SWOT, PESTLE, stakeholder, and risk assessments to determine the most significant aspects needing to be addressed for a company to move towards sustainability (Hill and Westbrook 1997). Not knowing weaknesses, threats, risks and violations of the SPs can be a barrier. Revealing actual strengths of the company and business opportunities regarding sustainability can fuel motivation (Dunphy, Griffiths and Benn 2003; Pojasek 2008b).

Risk analysis is especially important. “Social, cultural, demographic, and technological changes mean that social and environmental risk management is more important than ever to brand value” (Willard 2005, 85).

External regulations and compliance are still the primary drivers of environmental and social considerations for companies, and while governments and businesses vacillate on action, the sustainability challenge increases. The uneven and constantly changing landscape of regulation and compliance is a complex issue, which can present either barriers or motivations for companies (Willard 2005).

One barrier a company may face is that an innovative, more sustainable product it has produced does not comply with outdated governmental codes and regulations. Another barrier that underlies the concept of compliance itself is that a company’s efforts are fulfilling minimum requirements related to damaging environmental or social effects rather than innovating true solutions. On the other hand, without regulations surrounding business operations and actions, there would be far worse destruction of the biosphere throughout history (U.S. EPA 2011). Also, as companies aim to be industry leaders in sustainability, anticipating future regulations provides creative motivation. The debate continues regarding effectiveness of regulatory compliance versus innovative proactive sustainability strategy (Willard 2005).

Ampelmann was faced with a regulatory change regarding a candy product called “Früchtchen”, which is similar to a candy known as “gummy bears”. The ingredients no longer have artificial colours and flavours because of
new regulations. To the company’s benefit, the price of production decreased, although some employees mentioned that the taste of the candy is not as strong and colours not as vibrant. There was no mention that the change increased or decreased sales.

4.1.5 Brainstorming Actions

The aim of a brainstorming session as part of a sustainability initiative is to create as many ideas or fragments of ideas as possible for compelling actions that could help the organisation move towards its vision incorporating sustainability (Goldenberg and Mazursky 2002).

Although studies showed that brainstorming in groups is not always the most effective method for creating new ideas when compared to individuals working alone (Taylor, Berry and Block 1958; Diehl and Stroebel 1987; Diehl and Stroebel 1991), Sutton and Hargadon suggest that a broader perspective for assessing brainstorming in organisations should be used that includes other aspects than the number of ideas generated. Participants in a group brainstorming process enjoy the experience as a social encounter. It reduces stress and can give a group the feeling that something new was created and everybody was part of it. This is what we observed during our brainstorming workshops with Ampelmann. The participants highly appreciated the opportunity to exchange ideas and provide input and solutions for the company’s future by creating something meaningful together. Brainstorming helps to acquire, store, retrieve, modify, and combine knowledge in the whole organisation (Sutton and Hargadon 1996; Goldenberg and Mazursky 2002).

In the Crazy Creative Constraint Workshop we facilitated for Ampelmann, the participants brainstormed over 150 ideas about how to move the company towards sustainability. The research tasks we asked them to complete prior to the workshop and discuss on the forum were intended to prepare the employees for this brainstorming. We questioned if we would constrain them by directing them to certain topics and examples or whether it would be inspiring. We determined that the tasks led to inspiration towards more research and creative thought to possible sustainability actions. Certain activities in the workshop, imagining a sustainable Berlin, a crazy problem solving exercise including finding ideas for Ampelmann’s sustainability challenges led, in part, to the creation of many unique ideas in the ultimate brainstorming.
4.1.6 Setting Priorities

After the brainstorming process, ideas are filtered and analysed according to their economic, environmental and social impact, feasibility, and value (Goldenberg and Mazursky 2002). This is done in order to come up with the strategic plan for the company with short (1-2 years), medium (3-5 years), and long-term (7-10 years) goals. For this step with Ampelmann, a prioritisation matrix incorporating numerous business, product-design, and sustainability criteria was created (see Appendix I) and the process was initiated in Week II in Berlin. Management intends to complete the process as time allows in 2011. We recommend for all branded design companies to complete a full prioritisation of actions and include multiple employees in the process, since extensive information is required to determine an objective yet company-specific ranking. It is best to have employees co-create the strategic management plan to ensure they feel ownership in the process and enthusiasm on implementation.

4.1.7 Implementation

Developing an action plan requires implementation details to ensure success. The plan should include measurable business goals, responsibilities, activities, schedule, budget, resources and indicators how to measure and monitor whether actual progress is made. Revision should be considered, as needed, on a regular basis, which helps maintain employee engagement, by showing progress made of co-created actions and ideas. This process can be guided by the “Plan-Do-Check-Act” Deming Cycle explained in section 3.2.1 (Pojasek 2008b).

It will be important that new approaches, processes, and actions are implemented carefully and in a tempered time frame so that employees will not be overwhelmed with added tasks, trainings, changes, and new procedures. We experienced with Ampelmann that the time we requested of employees to research, learn, discuss and give feedback about more sustainable options and companies (estimated at one to three hours per week over a period of five weeks in between our on-site visits) was too much with their current work priorities and workload. Realistic implementation planning for companies is crucial.
4.2 Internal Human Behaviours, Beliefs, and Emotions

The internal individual barriers and motivations we observed during our on-site work with Ampelmann that may underlie a company’s behaviour and actions are further explored in this section, by looking at Kollmuss and Agyeman’s (2002) findings. They studied different behaviour change models and consolidated the factors that are influencing sustainable behaviour.

*Internal motivation* is one reason that drives behaviour. But, the dominance of motives surrounding subjective needs over motives informed by more noble and social values causes unsustainable actions in most cases. A basic environmental knowledge is necessary that people act consciously towards sustainability, but studies show that this aspect does not have great influence on human behaviour. As employees at a company gain more knowledge regarding sustainability and are given greater freedom to research and act on that gained knowledge, they will feel more empowered and motivated. If they are recognised for their efforts by management combined with added knowledge, then attitude and action will become more aligned.

Values that result from a person’s social network and the cultural context he/she lives in are influential in shaping intrinsic motivation. Frequent factors that shape values in a way that make people change their behaviour towards sustainability are childhood experiences in nature; experiences of environmental destruction; sustainability-related values held by the social network; role models, and education. Employees’ intrinsic values will probably not change and can only be influenced through education and awareness. This can only be dealt with in a company as they hire new employees. They can look to hire people with similar values to those of the company.

Positive environmental attitudes (attitudes are defined as lasting feelings about certain issues) mainly seem to influence when behaviour is low-cost and pro-environmental. The means that the more cost, time, and effort an action takes, the less people are guided by their attitudes. If there is allocation of resources from the company combined with external partnerships that aid in the path to lower costs of more sustainable production means, this can support positive environmental attitudes.
Environmental and sustainability awareness is limited by the non-immediacy of many ecological problems. When impacts are not tangible, happen far away with a significant time lag, or appear slowly and gradually, they are difficult to understand or perceive. Additionally, the complexity of the challenge prevents people from understanding the consequences. A limitation in understanding the sustainability challenge is a major barrier that decreases a willingness to act. Awareness can be addressed by training, education, allocation of time and resources, and embedding sustainability in the company’s core values and in its product design focus.

*Emotional involvement,* or the connection people have with the natural world, shapes values and attitudes towards sustainability. The more people care about others and about the planet, the more likely they will change their behaviour positively. However, the opposite can result if defence mechanisms arise to strong feelings about environmental destruction. These can include rational distancing, apathy, and resignation leading to no movement at all towards sustainability. These emotional areas are difficult to assess without further research and are outside of the scope of our results and research. It would be difficult to assess how the actions and approaches in our results could influence these positively.

*Locus of control* comes into play if people do not perceive that they have the ability to bring change through their shift in behaviour, demotivating them to move positively forward.

If peoples’ *responsibilities and priorities* focused on their own well-being contradict with sustainable behaviours, then it is less likely that actions will be taken. When employees are more empowered to act, have time to research and innovate solutions, feelings of helplessness will be reduced. Similarly, as company priorities are aligned with sustainability, there will be more internal drive towards sustainability.

*Old habits* are considered a significant internal barrier as they often inhibit change, even if other barriers are removed. Changing habits is difficult, especially if a person is still questioning the new behaviour and is not sure if it will work. Self-confidence and the belief that change is possible are essential in movement towards sustainability and should be dealt with by any organisation on this path (McGonigal 2010). Changing habits takes time and commitment and, when sustainability becomes embedded in all
aspects of a company’s endeavours, this will provide support for new habits to develop.

One effective tool to engage and create confidence in individuals to move towards sustainability is to highlight powerful examples of cutting-edge companies. One example presented to Ampelmann was a U.S. company that is producing 100% recycled-content toothbrushes, using 54% less water, and emitting 64% less greenhouse gases (Preserve 2010). The presentation created enthusiastic engagement and spurred ideas for employees how Ampelmann might adapt this model for its own product offerings.

Fear of being unsuccessful in attempts to design more sustainable products and of whether customers are willing to buy those products are internal barriers. Ways to understand and reduce these fears are to analyse markets, opportunities, and risks; devise strategy focused on creative innovation; research alternative suppliers and manufacturers; and strategically take steps in the right direction.

Building a culture of action can only be developed if people do not fear mistakes (Pfeffer and Sutton 2000). Once positive change is achieved, it can be highlighted to the rest of the company, fostering more motivation and confidence (Kotter 1995). The recommendation to allocate resources towards sustainable innovation combined with developing a rewards and recognition program can aid in these areas.

Further research would be required to flesh out actions and approaches that a company can apply that fully address removal of internally based barriers and encourage motivations in these individual realms.

4.3 How a branded design company can contribute to developing a sustainable society

4.3.1 Utilise the FSSD

The FSSD with its “...basic sustainability principles makes it easier to identify out-of-the-box solutions that are based on true constraints and resource potentials, rather than restrictions that follow from current norms, practices and technologies. Such a perspective is especially important to employ in the early phases of product development” (Hallstedt 2008, 35).
The framework supports a company to retain a flexible platform approach to guide the development of more process-specific policies and procedures focused on sustainable selection and management of materials, suppliers, licensing, vendors, operations, hiring, training, employee and stakeholder engagement, etc.

A branded design company can contribute to a sustainable society by establishing policies that are guided by the FSSD about HOW to design and innovate products, WHAT products and materials can be purchased, designed and licensed, and WHOM to purchase from and license to. This is especially important as a company increases its business size, hires many new employees, and seeks to develop new products for new markets. The FSSD provides a wide-angle lens encompassing potential upstream causes of problems in the product development process. A company seeking to define its brand as one that is beneficial to society can better communicate its intentions clearly and stay true to them when guided by the FSSD. If a company states its intentions to move towards sustainability, it can then clearly define what this means based on scientific and easily understandable principles that are robust and agreed upon across disciplines, industries, and societal sectors (Hallstedt 2008).

4.3.2 Product Design towards satisfying Human Needs

Product design, through years of industrialisation and mechanistic progress, has moved away from solely human needs fulfilment. With the development of bottom-line business focus with short-term profit in mind plus advertising and innovation of media, even less focus is on providing for human needs. The term “industrial design” as traditionally discussed is antithetical to sustainability as it means the ability to mass-produce goods for mass populations and markets (Walker 2002). Therefore, the emphasis of industrial design in the past has not been aligned with what is emerging as important in the area of industrial ecology (IE), which is focused on systematic analysis of the relationship between human activities and the environment (Socolow et al. 1997). Design and design education have focused on the traditional approach to industrial design. Industrial product design is a popular profession that is considered of value both in the market place and in society. If an industrial or any designer begins to look at design through the lens of what “should be, (...) an ethical dimension to our activities... [is introduced,...] and this is a key aspect of sustainability” (Walker 2002, 9). A branded design company can help create this shift by
creating awareness among employees, especially its designers, and among external stakeholders of this aspect.

Making people and their human needs the focus of the design process requires deep understanding of their behaviours, motivators and barriers. Qualitative research is therefore recommended as an essential component of the design process (Young 2010). It “enables the design team to develop deep empathy for people they are designing for, to question assumptions, and to inspire new solutions” (IDEO 2009, 20).

IDEO, a successful American design company, provides a set of Method Cards that help design teams to research and understand people and their needs (IDEO 2002). Interviews, focus groups, observations or contextual inquiries such as mobile diaries, provide deeper insights into people’s problems, needs, and lives that are hidden often are not aware themselves or can not articulate in interviews (Young 2010).

4.3.3 Design to change Behaviour towards Sustainability

Design can do more than just fulfilling needs. Choosing sustainability as an aimed target behaviour for customers can help branded design companies contribute to a sustainable society.

“Design for behaviour” aims to influence human behaviour through the features of products and services (Young 2010). The idea of designing to change behaviour is nothing new. With invention and innovation towards societal progress, behaviour change focus is inherent (Lockton, Harrison and Stanton 2009). Switching from kerosene lanterns to electric light bulbs and communicating via landlines to cell phones are two examples of products that completely have changed human behaviour. Many new products have been in the name of changes towards ease, convenience, and speed. The sustainability challenge requires a re-examination of these design focuses to a more holistic approach. Design to change behaviours towards sustainability can be especially challenging since it prescribes to a simpler, slower, and less consumptive life.

Lilley, Lofthouse and Bhamra (2005) identified three primary methods to change behaviour through design:

- Delivering descriptions with products to reveal the use intention.
- Inform users of the impact they are having while using the product.
- Products that mitigate, control, or block unwanted user behaviour.

Ampelmann and other companies can look towards designing for a sustainable future by determining unsustainable behaviours and imagining what kinds of behaviours are required in order to move towards sustainability. This is an ambitious and exciting field that goes beyond incremental improvements in efficiency towards shifting societal behaviour into sustainability realms. For example, Ampelmann has the idea to design traffic safety educational products. This is a perfect example for the company, that currently sells almost exclusively tangible products to tourists, as an innovative move into the realm of affecting behaviour in a positive way that appeal to one of their target markets. They and other companies could also look towards designing products that make living more sustainably attractive, easy, hip, and desirable.

With behavioural change in mind, the Design with Intent framework (Lockton, Harrison and Stanton 2009) identifies methods for influencing behaviour from across a variety of design disciplines. The Design with Intent Toolkit acts as a guide for designers aiming to influence user behaviour for social benefit. It outlines eight lenses that can be applied when considering a design challenge and gives suggestions and examples in each one to target particular behaviours (Lockton 2004-2011).

The primary questions behind “Design for Intent” including a web site and toolkit are (Lockton 2004-2011):

- “How do people use products, systems and environments?
- How can designers influence interaction?
- How can we design for sustainable behaviour?”

The Fun Theory assumes that fun is the easiest way to change behaviour. Making a staircase into piano keys including sound in a Stockholm metro station made 66% more people take the healthy choice of climbing stairs rather than riding the escalator (TheFunTheory 2010).

After sending one of the Ampelmann CEOs the online link to the YouTube video showing pedestrians enjoying walking up the piano stairs, he continued to look for more ‘design for fun’ information and discovered a site where basketball hoops were shown to make recycling cans and plastic bottles a fun sports challenge for people. He informed us that this type of idea was very inspiring to him as a way to design for sustainability.

We introduced all of these design concepts to Ampelmann employees throughout the activities. They were met with great interest, and resulted in
new product ideas. Since one of their key customer segments is the children and pre-teen (and their parents) market, the Fun theory resonated in particular.

4.3.4 Develop Sustainable Product Design Processes

Strategic tools for sustainable product development

We had expectations when first beginning to work with Ampelmann that there would be specific processes and methods in place for the research, design and development of products. Because many of Ampelmann’s designs are simple or are an add-value design to a basic generic product e.g. ceramic standard mugs with Ampelmann brand designs painted on, the designer informed us that there were not standard procedures or processes that were followed for designs. Each designer worked differently on each design project. This does not mean that each designer did not have own internal processes, but they themselves had not formalised any of the methods they used. This, we observed and deduced from interview answers, was actually an appealing part of the company culture of autonomy. Yet, it could also be considered, from our observation, as potentially limiting creativity since there is less rigour in the design process when no process must be followed and no design process guidelines need to be adhered to.

If a branded design company wishes to commit to a sustainable path, then creative problem solving and innovation are enhanced by establishing constraints that focus on a desirable future for society. “For maximum efficiency of a company in finding viable pathways towards sustainability, it is (…) necessary to coordinate different methods and tools that are useful for sustainable product development and integrate them into the overall decision-making processes at different levels in companies” (Hallstedt 2008, vii).

Product design tools that take a strategic sustainable development approach are the Method for Sustainable Product Development (MSPD), Template for Sustainable Product Development (TSPD), and Strategic Life Cycle Assessment (SLCA) (Ny et al. 2006; Byggeth, Broman, and Robèrt 2007). The MSPD supports the integration of sustainability into the product development process and facilitates innovation towards sustainability. It helps identify sustainability problems and find alternative solutions (BTH Department of Mechanical Engineering 2008).
What is particularly helpful with this tool for designers is that its modular organisation can aid, in early product development stages, by providing a quick scan of sustainability challenges and opportunities surrounding a product concept or prototype before delving deeper into the design process (Hallstedt 2008). This can be helpful to branded design companies if committed to sustainability before significant investments have been made on designing or developing a product or product category (Hallstedt 2008). Ampelmann, with already 600 products on the market, has currently few limitations on the types of products it can place under its brand. The guiding questions of the MSPD would result in clarity of limitations supported by whole systems thinking.

The TSPD is a tool that was developed to help foster communication among sustainability experts and product developers plus aid understanding of the main sustainability challenges of products. It has three templates assessing current and future market desires and needs, the current product concept, and improvements towards sustainability with the help of the SLCA and an assessment of stakeholder relationships (BTH Department of Mechanical Engineering 2008). The TSPD allows companies throughout the product design and improvement process to place focus on the sustainability gap of a product or product category (Hallstedt 2008).

As Ampelmann and other companies look to reduce a product’s negative sustainability impacts, there is guidance in identifying what improvements or substitutions to focus on without losing sight of current and future trends or of stakeholder interests as society need and demand more sustainability.

SLCA is a tool for analysing and comparing a particular product or certain product choices and identifying the main sustainability impacts across each life cycle stage (BTH Department of Mechanical Engineering 2008). It is based on the traditional LCA tool used to identify and assess environmental impacts assessing every impact associated with all stages of a product’s life cycle (U.S. EPA 2011a). While an LCA is comprised of highly detailed information, the SLCA tool takes a more systematic and comprehensive sustainability perspective. The SLCA uses more general information to identify sustainability concerns and requires less time than a traditional LCA for branded design companies that are committed to contributing towards a sustainable society (BTH Department of Mechanical Engineering 2008).
MSPD, TSPD and SLCA have been tested, used and found to be useful and able to help a product design company to contribute towards a sustainable society (Byggeth, Broman and Robèrt 2007; Ny et al. 2008; Ny 2006).

**Involve customers in the design process**

Integrating users as experts in their own context in the design process is referred to as “co-design”. Sanders and Simons (2009, 1) define it as “a special case of collaboration where the intent is to create something that is not known in advance.” The methods can be integration in brainstorming sessions or even co-creating prototypes and tangible products and they can be applied in different stages in the design process. Customers are likely to co-design and have a say in the solutions addressing their lives and needs, helping to define problems and opportunities and what should be produced and what not (Young 2010).

### 4.3.5 Business Models to consider

The sustainability challenge forces design and branded design companies like Ampelmann in a way that inspires new paths of providing value to be developed. Understanding what consumers need and questioning current practices will lead to new innovations and to the building of new business models where previously none have existed (Nidumolu, Prahalad and Rangaswami 2009).

During the interactions with Ampelmann we confronted the employees with various examples of new kinds of business models that are presented in the following. They are promising options that branded design companies may analyse for designing their own innovative approaches to contributing towards a sustainable society. These business models are not developed through the FSSD, however may spur innovation towards sustainability if used with guidance from the framework.

**Value-driven and Value-innovation approach**

The value driven approach to business focuses on providing differentiated value at a higher cost to customers. The opposite approach would be to focus on delivering sufficient value for customers with the benefit of lower cost (Kim and Mauborgne 2005).
Apple Inc. has taken a value-added approach to its business, product and service development, assuming that, if customers recognise the superior value of the products it offers, that they will be willing to pay higher costs. Crucial for Apple’s success with its value-driven products is “a user’s boundless dedication to a product that he or she (…) feels is far superior to anything else that’s out there. It’s about people deriving their own identity, at least in part, from their use of that product” (Cruikshank 2006, 89).

Ampelmann takes a similar approach by providing high quality souvenir products and delivering value with exclusive design and brand meaning. Customers are already willing to pay more and by fully committing to that business approach and incorporating sustainability values Ampelmann could solidify its reputable brand image and move towards the high-end design brand they are aiming to be (Hallstedt 2008) at the same time as moving towards sustainability.

*Product-Service Systems (PSS)*

PSS have the potential to lead to sustainable solutions (Thompson 2010). The goal is to deliver the function needed, making efficiency and longevity of the entire product system crucial to the bottom line and therefore important to the producer (UNEP 2005).

Allegrini, an Italian detergent producer, successfully developed a PSS delivering biodegradable cleaning products to customers’ homes, reducing waste, packaging, and transport and gaining customers at the same time (UNEP 2005). Another example is Aura Light International AB, a producer of long-life fluorescent light tubes, who examined that shifting its offer to providing light instead of tubes will benefit the user, the producer, and shifting society towards a sustainable future (Thompson et al. 2010).

Introducing that business model to Ampelmann provoked new product ideas in the heads of the employees. One of them was to combine some products with services like traffic education. Branded design companies should look at examples like the one’s presented and think about how they could incorporate services in their product portfolios, expanding their business and most likely contributing to a sustainable society at the same time.
Closed loop systems

One approach to move towards alignment with the four SPs is to use materials more abundant and available on earth that are recyclable so that development of closed loop systems for products becomes a viable goal (Hallstedt 2008). Closed loop product systems are developed toward the goal of being able to use the product, waste and by-products of the production process to make the same product or other products.

Interface Inc., a worldwide leader in manufacturing of carpets is in the process of developing a closed loop system by having adopted the Sustainability Principles and set the goal of zero waste, among others. Having partnered with suppliers to develop a recyclable fibre and having developed a 100% recycled nylon carpet product Interface Inc. is turning waste into resources closing the loop (Gustashaw and Hall 2008).

Another company we introduced to Ampelmann was Preserve. It is a U.S. company that continues to innovate its closed loop system of materials and products. The handles of the toothbrushes it sells are made from recycled yoghurt containers, hummus tubs, and other recyclable plastics. The company encourages customers to send back the toothbrushes at their end-of-life in the pre-paid mail-back pack that is also recyclable. The nylon bristles and the handles are then recycled together (Preserve 2011).

Inspired by that example, the idea of introducing recycled bags was finally realised and another idea of giving customers discounts when they bring an Ampelmann bag again for their next visit in a shop is under serious consideration discussion. Often designers do not see possibilities for improvement and thinking about closed loops can spur creativity as we experienced.

Other business approaches and models continue to develop and emerge, including crowd sourcing, community generated, pooled resource and share centres of expertise and human centred design that are worthy of conceptual review and consideration when developing strategy towards sustainability for a branded design company.

4.3.6 Innovate

Success for companies in a rapidly shifting and competitive global economy requires a company culture where innovation can thrive as part of the strategic push towards economic success (Kelley 2005, 4).
“Sustainability is a mother lode of organizational and technological innovations that yield both bottom-line and top-line returns” (Nidumolu, Prahalad and Rangaswami 2009, 57).

An expert in innovation is the American design firm IDEO applying effective practices like prototyping, brainstorming and observing. Its creative methodology includes the following steps (Kelley and Littman 2001):

- Understanding the system - the market, technology and the customer.
- Observation and finding the actual need.
- Visualisation, models and prototypes.
- Evaluation of the prototype by testing and improving.
- Implementation and launch to market.

In our Crazy Creative Product Design Workshop, we introduced some of the IDEO methods like role playing and projecting past needs into the future (favourite product in the past and Ampelmann products in a sustainable Berlin). Employees had various creative new product ideas and felt that the constraints that we gave them, for example, having them design a product that is only made of biodegradable materials challenged them but helped in coming up with innovative new ideas that they would not have thought about otherwise.

Other ways to spur innovation are: to apply knowledge from one field to another situation; (e.g. by inviting employees from other departments to look at prototypes) and to brainstorm are both promising methods to innovate (Kelley and Littman 2001). We do not know how the results of the workshops might have been if we only invited employees from the design department, but having observed that a lot of creative ideas came from other parts of the company proves that branded design companies should unlock all potential ideas they have in their company and find a way to include everybody’s ideas.

In order to stay competitive today or open up completely new markets it is essential for branded design companies to innovate. Sustainability is already shaping the competitive landscape forcing companies to rethink. Adopting it as a goal early on and developing related competencies can only be an advantage (Nidumolu, Prahalad and Rangaswami 2009).
4.4 Brand Alignment with Sustainability

The selling point and the reason for purchase of products is often the brand itself (Klein 2001). This presents a specific sustainability challenge, because it can increase needless purchasing of products. Decoupling a product’s purpose from its purchase through marketing and advertising messages reinforces over-consumptive, unsustainable consumer buying behaviour (Constance 2005).

With the increasing sustainability challenges the world faces, innovation towards sustainability gives good opportunity for a company touting brand to contribute to manoeuvring society into a sustainable direction leading by transparent example and building authentic and reliable reputation in a marketplace overflowing with unsustainable products and (Willard 2005). “Success for a branded product design company means that sustainability strategy and brand strategy are created in tandem, not in silos. (...) And sustainability provides the platform for improvements in operations, innovations in product development and greater impact” (Bemporad and Baranowski 2008, 1).

Analysing and targeting the green market is a way of opening up a new market for a company while moving towards sustainability for its brand. A recommendation is to make sure that general consumer values are not completely neglected when accessing this new market (IISD 2010). These include:

- **Price**: not many customers are willing to spend more for green products.
- **Quality**: many of these products are not more effective than existing ones.
- **Convenience**: low tolerance for inconvenience.
- **Availability**: very few customers will go out of their way to purchase green products.

Emerging sustainability brands provide products and services that signify to the consumer a form of eco-advantage over conventional products in terms of environmental and social benefits (Grant 2008; Belz and Peattie 2009).

In any brand’s sustainability endeavours, whether they are informed by intending and doing good or driven purely by the business case (Kitchin
the aspects of subjective stakeholder expectation and experience are crucial so that trust is not betrayed and the risk of green washing accusations is diminished (Brady 2003; Belz and Peattie 2009; Grant 2008). Through today’s meaning placed on brand and boosted by marketers and companies, people develop certain expectations. If the experience of brand purchases is different than expectations, then customers feel betrayed. (Kitchin 2003).

More customers are becoming concerned with their own and their companies’ impact on the environment. Transition towards more informed consumers is evident everywhere (Thackara 2006), openly expressed through social media and influenced by customer attitudes and opinions (Aacker 2010). Stakeholders are able to see beyond public relations and to evaluate a brand’s business behaviour with the help of these new media avenues (Brady 2003).

There is a market described as, “Consumers who practice LOHAS: (lifestyles of health and sustainability) (...) people who worry about the environment [and] want products to be produced in a sustainable way” (Solomon et al. 2010, 208).

4.5 Validity

4.5.1 Mixed Success of Case Study Interaction

It is important to review our interactions with the case study company, to consider the relationship developed through the interactive process with individual company employees, and how, or if these elements influenced our research results.

The general understanding of employees of the need for sustainability and the interest of the Ampelmann CEOs significantly contributed to the success of the whole process. Most of the employees already had some interest in sustainability and were highly motivated and interested in working with us. It was possible to build on specific expertise available in the company, like knowledge about supplier certifications, environmentally friendly textiles, recycling options for packaging, energy efficiency and a lot of ideas in which direction Ampelmann should go, and what current customers are asking for. The company culture incorporating a comfortable casual work environment, cooperation, reliability and trust among the employees and the appreciation of the CEOs of new ideas influenced our
work positively. Additionally to that, the good relationship we built with employees throughout the process made it possible to engage all participants, have a good participation during interviews, surveys and workshops, thus provide valuable results and help the company move towards sustainability. It is possible that in other branded design companies more action and engagement tools are necessary to reach a similar participation of all employees if the company culture does not encourage full cooperation or if the top management is not supportive (Senge 1990; Willard 2005).

Our relationship with Ampelmann was different than a professional working relationship in that we were students who had requested to work with the company, which happened to coincide with the CEOs’ interests in moving towards sustainability. Particularly, they had interest in developing a separate, higher priced “green line” and developed plans to premiere this product line in October 2011 to coincide with the 50th anniversary of the installation of the Ampelmann traffic lights in East Berlin. Because of the convergent interests, the CEOs agreed to our ambitious plan of employee engagement. At the same time, the reality of the demands of running a successful business as usual and related time constraints did require adaptation of our original plan of engagement.

If we had been engaged by the company as sustainability consultants in a professional capacity, there might have been a different relationship established and a different level of commitment from the company and some of our engagement activities would have been more polished and already tested and therefore, may have been more successful and taken more seriously. Conversely, we also would not have requested employees to take the time to engage in a lengthy survey after Week I and other activities, such as the forum or the research quests we sent would have been differently coordinated or introduced. In many ways, being students enhanced the employee engagement experience because it was non-threatening knowledge and expertise was being shared in both directions. Our knowledge gain from the individuals in the company was equal to what we shared with the company. Standard consultant contracts are often one-way: a consultant is hired, given a project or analysis to complete, presents findings, and leaves. In the domain of sustainability, a two-way dialogue between sustainability practitioners and an entity is a key to success. It is a co-creative process that demands all parties to voice their interests and needs to come to a shared understanding and vision of the path that lies ahead (Senge 1990).
At the beginning of the thesis project, we agreed with the CEOs on the overall plan, time, and resources needed. The initial excitement, support, and agreement that employees can do all their sustainability related tasks on company time slackened down, as it became clear that moving towards sustainability is an on-going continual improvement process that requires time and effort. In the end, there was no alleviation of other duties. Employees were supposed to take on extra time and the suggestion of senior management to do tasks during off-hours time resulted in a loss of motivation and engagement.

Communication, technology, and language issues may have caused additional loss of momentum and interest. Our initial communication strategy was bilingual (English and German) but it was hampered as even if most of the employees speak English, it took them more effort and time to understand English resources. Doing the first evaluation survey entirely in English and asking them for research tasks with partially only English resources led to frustration and confusion. The integration of an online forum in the interaction process to keep co-creation and co-learning going during the whole process was, due to technology challenges, not as easy and engaging as we intended it to be. These barriers were addressed in Week II in Berlin and company engagement was regained as the interaction was done increasingly in German and the online forum was explained face to face.

Understanding is crucial. In any multinational company, and especially when integrating external stakeholders, it has to be made sure that communication is done in a way that everyone can understand and participate without feeling intimidated or left out. Failures can severely hamper the necessary cooperation and information flow between different departments and stakeholders slowing down and even stopping the transformation of the business towards sustainability.

Externally, our interaction process was affected indirectly by a natural disaster happening in Japan. Ampelmann’s plan to start a shop in Japan was interrupted by the disaster and created uncertainty, but led at the same time to the creation of a new button addressing the issues in Japan. These events, the start of good weather and the high season sooner than expected caused Ampelmann employees to have less time for assigned tasks and participation in the online forum, leading possibly to less information about actions towards sustainability and potentially impacting the results of the
C-step of the ABCD Process and the answers to our second research question.

Action research is a participatory process that requires flexibility and feedback. When working towards sustainability, one must adapt all the actions and approaches to the specific company and brand plus be flexible for change as the feedback from employees and management are given. It is important to have two-way communication open at all times, including face-to-face discussion opportunities to prevent miscommunication.

4.5.2 Validity and Generalisation from a Single Case Study

Ampelmann has a unique brand and image and most of the company’s products are very simple designs. As our work with the company evolved, we also learned that its design processes were unique to each designer and to each product and became concerned that our findings with the company would not be sufficient to create generic and complete recommendations for any branded design or licensing company in contributing towards a sustainable society. We realised that the outcomes that might emerge through our case study interaction, would need to be supplemented through literature review, current product design and company practices, and testing for a complete picture to emerge. Also, the overall positive outcomes from interviews and surveys in the answers might have been put into a more favourable light about sustainability as the reality is. The good relationship and trust we built with the employees of Ampelmann and their good will to support us in our thesis work might have led to partially over-positive evaluations of the methods applied, although language and technology challenges were expressed honestly.

Being aware of the difficulties to generalise from a single case study, we still think that branded product design companies deal with similar problems and can take advantage of multiple actions and approaches that were recommended. More so because we did realize during our research that a lot of findings are actually applicable to any type of company, not only specifically to branded design companies. However, actions and approaches do need to be adapted to the individual case and the needs of the specific company, and the presented prioritisation criteria can help selecting the appropriate actions.
It is uncertain, as well, whether the actions and approaches recommended will actually create change in any branded design company. A study would be required to test all actions and approaches over a longer period of time with multiple branded design companies to ensure the impact and general effectiveness to help an organisation to move towards sustainability.

Regarding the case study company Ampelmann GmbH, management is aware of and interested in moving its company towards sustainability and, as a result of our interaction with them, the company is beginning to view sustainability from a strategic standpoint. Furthermore, employees have a deeper understanding of the company’s opportunities to move towards sustainability and are more interested in taking action.

Although Ampelmann has not yet had sufficient time to complete the full Strategic Management Planning Process towards sustainability, senior management is committed to completing the process and is taking ambitious steps in the right direction including a switch to 100% recycled content shopping bags, an ambitious plan to switch a majority of textile production for t-shirts to organic cotton, and to develop a green line of products.

Our results indicate that there are many meaningful approaches and actions that all branded design companies can take to add value to a sustainable society.
5 Conclusion & Further Research

This thesis focused on investigating major motivations and barriers for a branded design company to move towards a sustainable future, and presented approaches and actions that can be taken to transform its business towards sustainability. We identified ways in which a branded design company can contribute to developing a sustainable society, working with the German company Ampelmann GmbH as case study.

Our research involved an action research approach in the form of a strategic management planning process that we conducted, serving as consultants to the company. With Ampelmann, we moved through the majority of the planning process with success. The results of our work included: completing a Baseline Analysis of the company’s current reality regarding sustainability; conducting numerous activities with the company including two workshops, two presentations, interviews; and we interacted in a variety of formats that raised knowledge and awareness; created excitement and interest, and moved the strategic planning process significantly forward to a point where Ampelmann can strategically continue the process on its own when it is ready. At the time of thesis completion, the company is in the process of: developing a company vision, prioritising compelling actions towards sustainability, switching 95% of the t-shirt collection to organic, and developing plans to establish a “green line” of products.

Barriers and motivations were identified for a branded design company through our work with Ampelmann and through literature review and were categorised under each of these company elements and stakeholder groups: organisational structure and processes, brand, materials and products, energy, individual behaviour, customers, suppliers, vendors and supply chain, competitors, media and NGOs, waste and by-products, community, government, regulations, employees, and society.

The approaches and actions that can be taken by a branded design company to transform its business towards sustainability either build on the motivations or suggest a way to overcome the barriers that we derived from our research. They were developed in the following ways:

- brainstormed with the case study company
- discovered through our own interaction and learning with the company
- through literature review
Further research is required and we hope that our results will provide branded design companies of different sizes, cultures and various industries, etc. the opportunity to question or validate, and respectively build upon the findings of this thesis. We suggest that future research focus on comparing different branded design companies; elaborating on specific barriers or motivations; and testing our approaches and actions. Furthermore, the question: what will consumption look like in a sustainable future? – can be reflected upon.

In addition, the correlation between sustainability and brands could be investigated in greater depth in order to find out what role sustainability plays in developing a brand and how sustainability can be successfully embedded into a brand and communicated to stakeholders.

Regarding the case study company Ampelmann GmbH, management is aware of and interested in moving its company towards sustainability and, as a result of our interaction with them, the company is beginning to view sustainability from a strategic standpoint. Employees have a deeper understanding of the company’s opportunities to move towards sustainability and are more interested in taking action.

Our results indicate that there are many meaningful approaches and actions that all branded design companies can take to add value to a sustainable society.
References


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Sanders, Elizabeth, and George Simons. 2009. Open Source Business Resource. *A social vision for value co-creation in design.* Available from


Shedroff, Nathan 2009. *Design is the Problem: The Future of Design Must be Sustainable*. New York: Rosenfeld Media, LLC.


# Appendices

## Appendix A: Excerpt Internal Baseline Analysis

### Internal Baseline Analysis

<table>
<thead>
<tr>
<th>Topic area</th>
<th>Description</th>
<th>Evaluation against Sustainability Principles (SPs)</th>
<th>SWOT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SP1</td>
<td>SP2</td>
</tr>
<tr>
<td><strong>Ranking on Sustainability Principles:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-3: major contribution in violating SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2: medium contribution in violating SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1: minor contribution in violating SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0: no impact on SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: little contribution in helping to comply with SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2: medium contribution in helping to comply with SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3: great contribution in helping to comply with SPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SWOT Analysis:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S - Strength, W - Weakness, O - Opportunity, T - Threat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M - Motivation in moving towards sustainability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B - Barrier in moving towards sustainability</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Management structure

<table>
<thead>
<tr>
<th>Management initiatives towards sustainability</th>
<th>Management have interest and have produced products moving towards sustainability; plans to develop a &quot;green line&quot;.</th>
<th>1</th>
<th>1</th>
<th>1</th>
<th>1</th>
<th>4</th>
<th>x</th>
<th>x</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurement Guidelines</strong></td>
<td>No written procurement guidelines.</td>
<td>-2</td>
<td>-2</td>
<td>-2</td>
<td>-2</td>
<td>-8</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

### Materials, Development and Lifecycle (main materials - 21 products)

| Petroleum | A raw material for many processed materials of the products. | -2 | -2 | -2 | -1 | -7 | x | x | |
| Office materials | Significant steps to purchase sustainable office products, materials, cleaning products, and snacks. | 2 | 2 | 2 | 2 | 8 | x | x | |

### Suppliers

| Certification | Collaboration with suppliers holding ethical and environmental certifications and adherence to standards. | 2 | 2 | 2 | 2 | 8 | x | x | |

### Brand

### Energy and Water

### Internal Affairs
## Appendix B: Excerpt External Baseline Analysis

<table>
<thead>
<tr>
<th>Current/ Future</th>
<th>Stakeholders</th>
<th>Current and possible external occurrences and trends that may impact company and its relationship with its stakeholders</th>
<th>P</th>
<th>E</th>
<th>S</th>
<th>T</th>
<th>L</th>
<th>E</th>
<th>O</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>Berlin Community</td>
<td>As a community, Ampelmann is a brand and figure that is well known through the street light and the &quot;Save the Ampelmann&quot; campaign. Ampelmann as a company, through its origins, reputation, quality of products, social work, and brand identity has a strong license to operate in Berlin.</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td>Berlin Community</td>
<td>License to operate could be reduced through individual, NGO, environmental activists, or media highlight of non-&quot;functional&quot; or unsustainable aspects of company products.</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Current</td>
<td>Competitors</td>
<td>Competitors do not pose a risk to brand because of historical connection to Berlin.</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td>Competitors</td>
<td>A company may emerge with a focus on sustainable products and a unique and cool brand image, which could take market share from Ampelmann because of strategic sustainability, business, and marketing strategy.</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Future</td>
<td>Customers</td>
<td>Customers may care more about sustainability - with special attention paid to environmental and social aspects of brand and products.</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future</td>
<td>Customers</td>
<td>As awareness of environment and social concerns rise, there is greater risk of consumer awareness and of NGO's scrutinising sustainability aspects of companies. Media and technology developments allow for more and more measurement of and access to information, whether real or false. If the business is able to measure environmental and social impact, it means more focus will be on a company's brand and product value throughout the life cycle.</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Future</td>
<td>Government &amp; Regulatory Bodies</td>
<td>Could impose fines, taxes, laws related to sustainability and end-of-life of products or materials in products.</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Future</td>
<td>Social/Environmental Watchdogs, Activists &amp; NGOs</td>
<td>NGOs and environmental activists may choose certain companies to profile about unsustainability, which can damage reputation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Future</td>
<td>Suppliers, Vendors &amp; their Supply Chain</td>
<td>Some current German suppliers &quot;Made in Germany&quot; add the largest portion of value, but the generic products are purchased from Asia or elsewhere. This could be considered false advertising and impact company and brand reputation.</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Appendix C: Baseline Interview Questions Week I in Berlin

Questions CEO interview

Motivation

• What are the vision, core values, and purpose of Ampelmann?
• Why do you care about being more sustainable in your operations and why would you like your products to be more sustainably designed?
• Have your customers been asking for more sustainable products?
• Do you feel a growing sense of responsibility?
• Do you want to save money; grow revenue; or enhance your reputation; or some other reason?

Employees/hiring

• Are there any hiring guidelines for employees (e.g. gender, etc.)?
• Any guidelines regarding hiring (gender, etc.) employees (health, rights, training, learning, health, safety, communication)?
• What is the educational and geographical background of the employees?
• How do you proceed with new employees (trainings etc.)?

Departments and working culture

• What are the different departments of Ampelmann?
• What is the process used so that departments communicate and collaborate with one another?
• How do you work together (Company Process and Culture: routines and traditions like weekly meetings, team work, collaboration, Christmas parties etc.)?

Suppliers

• Who are your main suppliers? Where?
• How many are in East Germany? How many are elsewhere? Where?
• Do you look at employee and operation policies of your suppliers?
• What are your guidelines and criteria for choosing a supplier?
• Do the guidelines (if any) differ for each product?
• Are there any environmental or social considerations or certifications you require when choosing suppliers?

Design Processes

• What is your process at Ampelmann in choosing to design and manufacture a new product?
• Do you follow any particular product design process or guidelines to design and develop new products?
• Do you go through a formal business case analysis before deciding on designing, manufacturing, or licensing your brand for a new product?
• How do you decide on who may license your brand? Do you have guidelines in place for this decision making process?
• How do you decide / who is deciding about the materials / production process of a new product?

Licensing of Brand

• How do you decide on who may license your brand? Do you have guidelines in place for this decision making process?
• Copyright / license? Is Ampelmann still responsible for the traffic lights?

Operations

• Energy and water use in the offices / restaurants and shops?
• Source of electricity? Renewable options?
• Where do you rely on fossil fuels? Transportation? Heating? Supply of products?
• Energy / water efficiency measures?
• Source of heating?
• Waste management in offices/shops and restaurants?
• Any guidelines for employees regarding office practice regarding sustainability e.g. water, energy, printing, electricity, lights, computer use?
• Any guidelines for procurement/purchasing?
• Does your department have any guidelines for sustainable or “green” office processes or practices? (e.g. printing double-sided, only when needed, shutting off lights, computers, etc.)
Baseline Interview Questions employees

Common Questions for all interviewed people

- Can you please tell me about your position in the company and your department?
- How long have you been with Ampelmann?
- What do you like most about the company?
- What do you think Ampelmann is doing well?
- What is important in your work?
- What is your definition of sustainability?
- What do you do that takes sustainability into consideration in your business with Ampelmann?
- Do you see any possible business opportunities or risks in moving towards sustainability for Ampelmann?
- Do you see any business or operational risks in not moving towards sustainability for Ampelmann?

Additional questions for each department:

Designers (Product and Graphic)

- Which components (brand identity) of the brand do you want to strengthen?
- What main external vendors and partners does your department work with?
- Do you have any guidelines / criteria in choosing or continuing to work with those vendors / partners?
- How does the product design and development process work in Ampelmann?
- Are there any design criteria or requirements?
- Are there any guidelines or criteria that you follow when choosing materials for products?
- What are the steps (from the idea to the product)?
- Are there any process maps that you or the company follows in the design process?
- What guidelines / approaches do you use or do you find helpful when designing a product? What tools are you currently using when you design?
- What is your definition of good design?
• What does sustainable design / green design / eco-design mean to you? Distinction?
• What are the current trends in design of products in your market?
• Are there any trends towards sustainability in your markets?
• What tools would you like to see developed that do not exist for designing products / sustainable products?
• How are you taking the meaning of the brand Ampelmann into consideration when designing a product?
• What does it mean to design a product that is geared to the tourist industry and to the city of Berlin? Are there any constraints? What are the benefits?

Marketing/Sales/PR

• What main external vendors / partners does your department work with?
• Do you have any guidelines / criteria in choosing or continuing to work with those vendors / partners?
• Are there any trends towards sustainability in what you see in the market or in your customer’s requests?
• What guidelines / approaches do you use or do you find helpful when marketing / selling / promoting Ampelmann products?
• What analysis tools are you currently using to analyse market and sales trends?
• Does your analysis look at the green consumer market?
• Can you tell us about your current sales / market focus?
• Is there another market you would like to open up for Ampelmann?
• Do you see an additional market in the realm of “green” or “sustainability” consumers?
• Do you think there is an alignment of sustainability with the Ampelmann brand?
• How are you taking the meaning of the brand into consideration when marketing / selling a product?
• Do you have any ideas on how to embed a sustainability vision or sustainability into the existing brand identity?
• What does it mean for you and what implications does it bring that Ampelmann products are tied to the tourist industry and to the city of Berlin?
**Procurement**

- What are the main suppliers of Ampelmann?
- Do you have any guidelines / criteria in choosing suppliers?
- Do you see any “green” or “sustainability” materials or products coming onto the market that are of interest for Ampelmann?
- Is there and, if so, what is the difference between buying materials or a product for a branded company like Ampelmann and buying for a company not linked strongly to a brand?
- Is there and, if so, what is the difference between buying materials or a product geared to the tourist industry and for one that is not geared to the tourist industry (to a place)?

**Accounting**

- What are the top selling product lines at Ampelmann?
- For Ampelmann store sales, what is the relationship between price of products and sales?
- What amount of revenue is derived from licensing, events, shop, Internet?
- Are the energy costs for Ampelmann’s operations a significant expense for Ampelmann?
- Is there a particular budget set aside annually for new product development?
- What portion of the budget is allocated to marketing?
- What analysis tools are you currently using to analyse revenue and future product development?

**IT**

- What is the relationship at Ampelmann between your department and other departments in the company?
- What is the relationship at Ampelmann between you and external stakeholders in the company (supply chain, licensers, customers)?
- Do you see any further opportunities to save more energy in the processes, procedures, and equipment?
- Do you know of any IT tools that could aid in the process of sustainable product design?
• Do you have any knowledge of green IT? Are there any opportunities to implement green IT into Ampelmann’s IT operations?

Logistics

• What main external vendors and partners does your department work with?
• Do you have any guidelines/criteria in choosing or continuing to work with those vendors / partners?
• What is the relationship at Ampelmann between your department and other departments in the company (design, operations, buyer, vendors)?
• What is the relationship at Ampelmann between you and external stakeholders in the company (supply chain, licensers, customers)?
• What barriers do you see for logistics in moving towards sustainability?
• When making decisions in your department which criteria/guidelines do you take into consideration?

Shops

• What are your favourite Ampelmann products?
• What are the top-selling products in your store?
• Why do you think people like coming to the Ampelmann store?
• Why do you think people like the Ampelmann brand?
• Is there a product you have thought of that would be great for Ampelmann to design?
• What is your definition of a green product?
• What is your relationship at Ampelmann with the people that work in the offices? How do you interact with them?
• What do customers like about Ampelmann products?
• What barriers to you see for Ampelmann shops in moving towards sustainability?

Restaurant

• What are the main suppliers for the restaurant?
• Do you have any guidelines / criteria when choosing vendors or services for the restaurant?
• Do you have any purchasing criteria for food, drinks, equipment, silverware, and napkins?
• Do you serve organic or natural food?
• Do you serve local product / products?
• Do you use non-toxic cleaning products?
• Do you have any energy conservation processes in place (water, heat)?
• How does the Ampelmann brand influence the menu?
• What barriers to you see for Ampelmann restaurant in moving towards sustainability?

Appendix D: Follow up Interview Questions (Week II in Berlin)

• Have you thought any more about sustainability because of the interview we held the last time we saw you?
• Did you read the emails that we send you over the last several weeks?
• Did you look at any of the links we sent in the emails that we suggested you might look at if you had time? (If yes) Did you enjoy looking at the information?
• (If yes) Did you find any of the information on the links interesting or new?
• Did you go to the Forum? (If yes) Was it easy to access or confusing?
• (If yes) Were you able to access the discussion boards?
• Did you write anything on the discussion board or do you intend to in the next week?
• Have you had any ideas since we last saw you about what you or Ampelmann could do to move towards sustainability?
• Do you see for yourself or other people here at Ampelmann any personal barriers in moving towards sustainability?
• Do you see for yourself or other people here at Ampelmann any professional barriers or motivations in moving towards sustainability?
• We would like to do a short brainstorming session with you right now about any ideas you may have about ways that Ampelmann might be able to move towards sustainability as a brand. These
could be approaches or actions they might take, for example, one idea might be that all of your suppliers and vendors would be given a questionnaire to fill out to know exactly what they do for the environment and for social causes. Can you think of anything right now that might help Ampelmann?

Appendix E: Visioning and SP Product Analysis Workshop (Week 1 in Berlin)

Title: Visioning and SP product analysis workshop

Participants: 25 participants total (Ampelmann employees from all departments and CEOs)

Date: 16 February 2011, 9 a.m. (three hour workshop)

Location: Ampelmann Restaurant, Berlin

Purpose:

- Building trust, good feeling and engagement of Ampelmann employees
- Create shared understanding of Sustainability Principles and how to analyse a product against SPs (A-step)
- Start visioning process (A-step)
- Evaluate if this process is helpful for a transition towards sustainability

Methodology: Adapted World Café Workshop; a process for hosting conversations and creating a collaborative dialogue about questions that matter (Brown, Isaacs and the World Café community 2005).

Context: Most of the participants were presented the sustainability challenge, business case and the Sustainability Principles one day before the workshop. It was known that the company has no clear stated vision but that there were numerous ideas and wishes about the direction that Ampelmann should go.

Setup: Five tables with flipcharts and pens to write and draw (five people per table from different departments) were setup in a hospitable space with
brunch buffet, coffee and tea. The Sustainability Principles flipchart was
visible for all participants as well as the World Café ground rules: have fun;
play, draw and doodle; listen together for patterns, insights, and deeper
connections; link and connect ideas; listen actively and do not interrupt;
focus on what matters; contribute your thinking; ask questions if something
is unclear. A quiz about sustainability related facts (population growth,
climate change, fossil fuels, current happenings in Germany) as well as
products for a sustainability assessment (organic cotton H&M T-Shirt, REI
Recreational Micro bag, Titanium Spork - multi-functional spoon-fork-
knife, Neverlost foldable cup, Heaven Scent candle - vegetable oil) were
placed on each table. Corresponding to the products, factsheets for the
sustainability assessment were prepared (description, production process
and place, transport, point-of-sale, use, end of life, materials used, raw
materials used and origin, unknowns).

**Agenda:** After welcoming the participants, handing out the quiz, and
presenting the agenda and rules of the workshop, the Sustainability
Principles were explained in order to create a common understanding of
sustainability. The first question round in which the different tables had to
discuss and share with the whole group was about defining principles of
functional products and design. Then, the participants had to assess non-
Ampelmann products against these functionality criteria. Afterwards, they
had to assess the products against the Sustainability Principles without
being given any product information (after the thesis team gave an example
how to assess a product). After this round, the participants changed groups,
except one person per table who remained as table host. The newly formed
groups were then given the fact sheet of the product and did another
assessment of the same products. Then each table shared with all groups
how they assessed the products against the Sustainability Principles when
having more information about the products. The first part of the workshop
was summarised, the quiz collected, and during after a break, the three
winners of the quiz were announced. The winners could choose one of the
assessed products as a prize. The first activity after the break was a
visioning process, directly following an initial Appreciative Inquiry
Process, which follows the assumption that every organisation has strengths
that work well, and those strengths should be used to create positive change
(Cooperrider, Whitney and Stavros 2005). There was a five minute
brainstorming and dialoguing session to answer each of the following
questions: What do you like about Ampelmann? Why does the world need
Ampelmann? (Core purpose). What are Ampelmann’s ideals and core
values? (Values). What could be Ampelmann’s goals for the future, if
Ampelmann is part of a sustainable world? (Envisioned future). After each question, people shared their insights and changed tables.

**Results:**

**Product assessment against Functionality and Sustainability Principles:**

Most of the products got good results concerning the criteria of functionality, but according to the Sustainability Principles, participants realised that they as customers often lack full information about products. Also, even if products contribute to comply with the SPs in their use phase (spork, reusable bag, etc.), the production process or materials used in the creation of the product are still violating the principles. There were a lot of critical voices concerning the organic cotton t-shirt as well, because many other processes (dying and transport of the textile) contribution to the finished product are violate the principles. Discussions and some frustration arose and continued during the break about whether it is even possible to design a fully sustainable product and what aspects need to be taken into account. An explanation that many companies struggle with these issues and that the right management of less sustainable materials can help reduce violation followed.

**Visioning process begun with Appreciative Inquiry:**

During the different visioning question rounds, we could observe again a high level of engagement on the employees’ side. The CEOs gave us the feedback that the outcomes of these discussions are of high value since it will help them to formulate their vision. For this purpose, the thesis team transformed the workshop’s outcomes into visuals and into a worksheet on how to proceed with the visioning process.

**Conclusion:**

Assessing products against Sustainability Principles is a good way of becoming familiar with them and in order to understand the full scope of sustainability and how the whole life cycle of products needs to be taken into account. The evaluation survey reveals that 46% of the participants ‘strongly’ agree and 39% agree that the workshop helped them understand the SPs. At the same time, it can be frustrating to realise that there actually are no fully sustainable products and that it is very difficult to get enough information about the supply chain to ensure compliance at every step. The start of the visioning process was a successful tool to engage all participants.
in the process of moving towards sustainability. According to the survey, 23% ‘strongly’ agree and 46% agree that it was helpful to prepare a vision for Ampelmann.

Appendix F: Crazy Creative Product Design Workshop (Week II in Berlin)

Title: Crazy Creative Product Design Workshop

Participants: 20 participants total (Ampelmann employees from all departments and CEOs)

Date: 6 April 2011, 9 a.m. (three hour workshop)

Location: Ampelmann Restaurant, Berlin

Purpose:

• Raise awareness and create commitment to move towards sustainability.
• Get participants to brainstorm about actions Ampelmann can do to transform its business towards sustainability.
• Create ideas for possible products that Ampelmann could design to move towards sustainability.
• Address and co-create solutions to Ampelmann’s main challenges regarding sustainability (price, price perception, customer attraction, communication and marketing).
• Open the participants’ minds to new possibilities towards sustainability.

Methodology: Adapted World Café Workshop, a process for hosting conversations and creating a collaborative dialogue about questions that matter (Brown, Isaacs and the World Café community 2005).

Context: In order to prepare participants for the workshop and inform the brainstorming (C-step), participants were asked in the weeks before the workshop to look at online resources provided and do research tasks themselves about diverse aspects of sustainability, unique company approaches to value and sustainable product innovation, and more sustainable material and product examples. A discussion and sharing of
findings and new ideas was encouraged on a forum that we created, but due to technological and language challenges, this did not happen to the extent we expected. Additionally people were asked to bring a picture of themselves when they were teenagers, to help encourage a connection to their own memories of products through storytelling and to make the process fun.

**Setup:** Four tables with flipcharts (with some guidance for the respective task) and pens to write and draw (four people per table from different departments) were setup in a hospitable space with brunch buffet, coffee and tea. The Agenda flipchart was visible for all participants, as well as the rules for the brainstorming (Yes and! No judgement! Quantity - the table with the most ideas wins a prize! Be creative and crazy!), and a flipchart with questions from all components was folded up.

**Agenda:** After welcoming the participants and presenting the agenda and rules of the workshop, there was a storytelling session. The participants were asked to reflect about their lives at age 20 (or at the age they were in the pictures they brought), what their favourite products were at that time, and why. Moving to the present, they were asked to think about their lives are today, what their current favourite products are, and why. Five people shared their thoughts with the whole group. Following, the participants envisioned a Berlin moving towards sustainability by drawing a picture or writing a description about what their ideal picture of a sustainable Berlin would look like five years from - what kind of housing would exist, how energy would be created, how people would get to work, where would food come from, what leisure activities would be popular, etc. One person per table shared the outcome with all groups. Afterwards, the participants were excited to brainstorm Ampelmann products for this imagined sustainable Berlin. Four volunteers chose one age range (3-5, 7-11, 12-15, 18-22, 25-35, 35-50, 55+), four other volunteers chose one product focus area (3+ functions, waste to resource, 100% biodegradable, change behaviour towards sustainability, towards safety, towards health, product service system – e.g. car sharing, service – e.g. online info, education, game -, design to get people to exercise). The participants could choose one table with one age group and one focus area per table (four people minimum per table). They had to answer the question: What product, according to the age range and focus area, can Ampelmann design that everyone will want to have in a wonderful sustainable Berlin in five years? The product ideas were explained to and shared with all groups. After a break, the participants were asked at each table to describe and share what current problems or
challenges they have in their personal or professional lives. Each table chose one of the problems to solve in the group by brainstorming a total of thirty crazy solutions, which are actually not feasible. Then, they had to choose the top five of these crazy solutions and mirror with actual good solutions for the specific problem. One person per table shared the outcome with the whole group. From the personal crazy solutions activity, we moved to a scenario with crazy solutions for Ampelmann’s main challenges that they have encountered that they told us about in interviews in Week I. The scenario we presented was: Ampelmann has invested in designing a wonderful new product that is moving in the direction of sustainability to launch the green line and, for this product, production costs are higher: How do we get current customers to buy a product that is priced higher? How do we attract green consumers to buy Ampelmann products so that we have new customers? How can we get the price down of the product? How can we communicate, sell and advertise this product to customers and let them know what else Ampelmann is doing towards sustainability? How do we make sure that Ampelmann is not accused of green washing? Each table chose one of these challenges and brainstormed a total of thirty crazy solutions that are actually not feasible. Then the top five crazy solutions were selected and mirrored into good actual solutions for the specific challenge. One person per table shared the challenge, the top five crazy ideas and the mirrored solutions. This led to the ultimate brainstorming. The participants switched tables, brainstormed and shared what actions Ampelmann as a branded design company can take to move towards sustainability.

**Results**

The participants brainstormed over 150 actions to move Ampelmann towards sustainability to find more sustainable product solutions and ideas. These results served as a basis for our generalisation of actions and approaches that a branded design company could take to transform its business towards sustainability.

**Conclusion**

According to the evaluation survey 2 (either ranked ‘completely’ or ‘to a high extent’), 100% had fun participating in the workshop, 90% felt more motivated to move towards sustainability, 71% saw more opportunities for Ampelmann to move towards sustainability, 53% got ideas about what and how to embed approaches and actions towards sustainability into their
work, and 35% saw how to overcome challenges and barriers to move towards sustainability.

These ranking indicate that this workshop engaged most of the participants and provided Ampelmann with many actions that can be prioritised and implemented.

**Appendix G: Evaluation Survey 1**

**FIRST SECTION** - Answer Scale: 1 = Strongly Agree, 2 = Agree, 3 = Undecided, 4 = Disagree 5 = Strongly Disagree

*General questions (concern each type of activities)*

- The “Ampelmann in the World” - Kick-off presentation was of reasonable length.
- The “Ampelmann in the World” - Kick-off presentation was well structured.
- I did not attend the “Ampelmann in the World” - Kick-off presentation.
- The World Café Workshop and the time given to answer questions in groups were of reasonable length.
- The World Café Workshop was well structured.
- I did not attend the World Café Workshop.
- My interview was of reasonable length.
- My interview was well structured.
- I was not interviewed.
- The Sustainability Team was well prepared.
- The Sustainability Team worked to make the content interesting.
- The Sustainability Team worked to make the activities interesting.
- The Sustainability Team’s manner was professional (approach, clarity, pace, etc.).
- The Sustainability Team made me feel engaged.

*Specific questions (only concern one of the 3 activities)*

“Ampelmann in the World” - Kick-off presentation
• The content of the presentation was logically presented and could be understood.
• Slides, content and fonts were fully visible and readable.
• The presentation was innovative.
• The Sustainability Team’s presentation style was innovative.

Workshop (Visioning and SP Product Analysis Workshop)

• The set-up of the World Café Workshop was well done.
• This kind of workshop was new to me.
• The mix of people at the tables and departments made sense to me.
• The workshop’s flow and content were innovative.

Baseline Interview

• I felt comfortable the way the Sustainability Team members asked their questions.
• I was given enough time to answer each question.
• I expected the Sustainability Team to ask me other questions.
• It would have helped me to see the questions in advance.

SECOND SECTION - Answer Scale: 1 = Completely, 2 = To a high extent, 3 = To an average extent, 4 = To a low extent, 5 = Not at all

Specific questions (only concern one of the 3 activities)

“Ampelmann in the World” - Kick-off presentation (Intro presentation): To what extent did the presentation (allow me to)...

• recognise Ampelmann’s role as a contributor the sustainability challenge?
• recognise Ampelmann’s concerns as a business because of the sustainability challenge?
• understand the definition of sustainability as defined by the 4 Sustainability Principles?
• recognise Ampelmann’s business case for sustainability?
• understand the value of Strategic Management Planning for a company?
• change my understanding of sustainability?
Workshop: To what extent did the workshop allow me to...

- reflect upon the benefit of developing criteria or principles?
- understand the definition of sustainability as defined by the 4 Sustainability Principles?
- apply my knowledge about sustainability
- recognise the challenges involved with designing sustainable products
- prepare a vision for Ampelmann in a sustainable society
- reflect upon barriers and motivations for Ampelmann to move (further) towards sustainability

Baseline Interview: To what extent did the interview (make me)...

- reflect upon my understanding of sustainability
- recognise motivations and barriers for Ampelmann to move (further) towards sustainability

*General questions (concern each type of activities)*

- As a result of the activities, I feel a strong(er) identification with my work at Ampelmann?
- As a result of the activities I feel the need to think (more) about sustainability in my daily life.
- The activities improved my skills to be more open and listen better to other departments’ input.
- The activities made me believe that it is important for Ampelmann to move towards sustainability.
- Overall, the activities have stimulated my interest in the subject of sustainability.
- Overall, I was satisfied with my experiences during the activities.
- Overall, I am happy to collaborate with the Sustainability Team in future activities.

____________________________________________________________

THIRD SECTION - Free text boxes for answers

- Do you have any feedback about the presentation?
- Do you have any feedback about the World Cafe?
- Do you have any feedback about the interview?
• What could be done to improve the presentation?
• What could be done to improve the World Café Workshop?
• What could be done to improve the interview?
• What could be done to improve the Sustainability Team’s effectiveness?

Anything else would you like to comment about the “1st Sustainability Week” and the Sustainability Team?

Appendix H: Evaluation Survey 2

FIRST SECTION - Answer Scale: 1 = Completely, 2 = To a high extent, 3 = To an average extent, 4 = To a low extent, 5 = Not at all

Please rate the following statements.

• I did use the links.
• I did use the forum.
• I had fun using the links.
• I had fun using the forum.
• I had fun participating in the workshop.
• Now I personally feel more motivated to move towards sustainability.
• Now I see more opportunities for Ampelmann to move towards sustainability.

Did the activities (Links – Forum - Workshop) made me...

• learn something new about sustainability? If so, what?
• encourage me to do further research? (If so, which topic(s) and why?)
• overcome my personal barriers to move towards sustainability? (If not so, why?)
• get ideas about what and how to embed approaches & actions towards sustainability into my work? (If so, please explain further)
• see how to overcome challenges and barriers to move towards sustainability? (If so, please explain further)
SECOND SECTION - Free text boxes for answers

- Do you have any feedback about the Workshop?
- After all those activities and brainstorming, what actions do you think Ampelmann, as a branded product design company could take now to move towards sustainability?
  - short-term steps
  - mid-term steps
  - long-term steps
- Anything else would you like to comment about the “2nd Sustainability Week” and the Sustainability Team?

Thank you for your cooperation!

Appendix I: Prioritisation Actions Approach

Criteria to evaluate different actions and approaches against to:

- Sustainability Principles (SP1, SP2, SP3, SP4)
- Company specific vision
- Flexible Platform for further actions towards sustainability
- Initial costs
- Operating costs
- Low hanging fruit
- ROI financial
- ROI environmental
- ROI social
- Reduces risk
- Helps align brand with sustainability
- Helps communicate sustainability
- Helps in sustainable design process
- Helps find and choose more sustainable suppliers (supply chain)
- Helps innovation towards sustainability
- Helps move customers towards sustainability
- Helps transform the market towards sustainability
**Ranking:**

For the Sustainability Principles:

- -3: major contribution in violating SPs
- -2: medium contribution in violating SPs
- -1: minor contribution in violating SPs
- 0: no impact on SPs
- +1: little contribution in helping to comply with the SPs
- +2: medium contribution in helping to comply with the SPs
- +3: great contribution in helping to comply with the SPs

**Other criteria:**

- -3: Very poor contribution
- -2: Poor contribution
- -1: Some difficulty in contribution
- 0: no impact
- +1: Non-negligible positive contribution
- +2: Good
- +3: Excellent

**Decision whether this action/approach is feasible to be implemented:**

- Long term: 6+ years
- Medium term: 3-5 years
- Short term: 1-2 years