Sustainability in Project Management - a case study at Landstede MBO Zwolle

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Abstract

This paper investigates how organizations integrate sustainability into the way they execute and manage projects. A literature review is done and the driving forces that are contributory towards sustainability in project management and the different levels of incorporation are described. These are combined into a model, named: 9S Wheel (the wheel of 9 driving forces towards Sustainability in projects).

To research how these driving forces contribute to sustainability in projects in practice, a case study is done at Landstede MBO Zwolle.

How the driving forces contribute in practice, the interdependence of the different driving forces, and the importance of a holistic approach to reach a high level of sustainability in projects within organizations, are described.

1. Introduction

If every project in an organization is sustainable, every organization can change their business in a way which does not harm the wellbeing of us and our future generation. A dream or could this be reality?

Sustainability is about meeting “the needs of the present without compromising the ability of future generations to meet their own needs” (WECD, 1987 3.27). Organizations can play a tremendous role in this challenge, the World Commission on Environment and Development (1987) stated that business needs to change, otherwise the future of our planet earth cannot be assured. Therefore is it necessary to know what aspects influence an organization and the people within an organization towards behaving in a sustainable way.

As more organizations start to see the importance of sustainability, organizations will search for ways to integrate sustainability within their organizations. Project management can play a tremendous role. Project management is a way to implement change into an organization and sustainability is change, because sustainability is not yet a part of the nature of
organizations (Turner & Müller 2003). Thereby the result of the project should be sustainable but projects itself can also be executed in a sustainable way. The following research question towards this is phrased:

"How do organizations integrate the concepts of sustainability into the way they execute and manage projects?"

First a literature review is done to gather information in the topics related to this research, at the end a model is presented. Further research is done by a case study. The organization chosen for the case study will be introduced. Then the results will be shown and analyzed based upon the model. At the end a conclusion and information about further research on this subject will be given.

2. The driving forces towards sustainability in project management

To gather information about sustainability in project management, a literature review is done. To structure the research the literature review is divided into four topics: concepts of sustainability, integration of sustainability in organizations, project management and sustainability in project management.

3. Concepts of sustainability

When the General Assembly of the United Nations asked the World Commission on Environment and Development (WCED) to formulate a global agenda for change, the WCED answered by publishing *Our Common Future* in 1987 where they described “Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (WECD, 1987 3.27).

Despite its acclaimed vagueness of the concept (Mebratu 1998) the publication of *Our Common Future* marked a changed thinking on the importance of sustainability (Mebratu 1998, Sneddon et al 2006) Long term sustainable development was addressed (WECD, 1987, Foreword). And the challenge of sustainability has grown in recognition and importance (Silvius 2012). Sustainability is about short-term and long term. It embraces the three broad themes; economic, social and environmental. Which are commonly named the “Triple bottom-line” or “Triple P” (People, Planet, Profit) (Elkington 2010).

The “Triple bottom-line” can be found short-term as well as long-term according to Taylor (2006) at four principle levels: government, corporate, project and personal contributions. Rules and regulations about sustainability are set out for/by the government for example the Dutch government in there 'monitor sustainable purchasing 2011' and by standards as ISO 14001, environmental management.

4. Integration of sustainability in organizations

As described in the introduction sustainability is commonly mentioned in the strategies and websites of organizations. "Corporate sustainability (CS) refers to a company's activities -
voluntary by definition demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders” (Marrewijk & Werre 2002).

According to Bansal & Roth (2010) motivations for companies to 'go green' can be mixed, but competitiveness (because society asking for green products or responsible companies), legalization and environmental responsibility are often mentioned. Environmental responsibility can be driven by individual concern and values of managers and stakeholders. Besides “companies are facing increasing pressure to both maintain profitability and behave in socially responsible ways” (Mohr et al. 2001). According to Mohr et al. (2001) customers that are aware of the irresponsibility of organizations are more likely to boycott those companies. Pressure of society grows and organizations see the importance for integrating sustainability and therefore the ‘the triple bottom line’ needs to be considered and monitored within an organization to manage sustainability. Van Marrewijk (2002) introduced six multiple levels of CS, with their drivers. From basic level; forced from outside (for example legalization) to charity and profit driven choices to the highest level; fully integrated and imbedded. "But without an analytical framework the introduction and maintaining of CS will be just talk rather than deeds” (Badiru 2010).

As described by van Marrewijk (2002) sustainability is about change in thinking by corporate and external parties, to transform ways of thinking from top to bottom so that every day decision making from short till long term leads to sustainable success. But "the traditional top–down and bottom–up approaches to incorporate sustainability within the organization have not seemed to be effective to a large extent” and sustainability needs to be imbedded at all levels of the organization (Labuschagne et al. 2007). Or as Silvius (Silvius 2012) describes the levels of consideration; from business resources, business processes, business model till products and services that contribute to a more sustainable society, for example by teaching. To reach the highest level organizational; change is the key.

Because of the earlier described complexity of CS, the 7S-model developed by McKinsey consultants (Waterman et al.1980), can be used to measure organizational performance and change on the subject (Burke & Lidwin, 1992). The model is based upon the reasoning that organizational insight is not only about hard factors, in the model named Structure, System and Strategy, but also about the soft elements named Staff, Skills and Style. The less visible but important common values are defined by the Superordinate Goals, or later named Shared Value's in the centre of the model. The authors especially put emphasis on the interdependency of all seven parts of the model. The model can be used to diagnose 'weak' factors in organizations and thereby improve them (Waterman et al, 1980).

5. Project management

The IPMA defines a project as a "time and cost constrained operation to realize a set of defined deliverables up to quality standards and requirements." (ICB version 3.0). According to OGC (2009) this definition of a project is one of the frequently used definitions. The definition combines the time, cost and quality aspects which are commonly named 'The Iron Triangle’ (Atkinson 1999).
A project has several specific characteristics which makes a project different from the core business of an organization (OGC, 2009). A project provides change and uncertainty, a project is temporary, cross-functional and unique.

Projects are often split up in stages, also standards and methods make use of stages to structure the projects. In general the these stages are; a stage to investigate what the project is and to set it up, a stage to execute all the work that has to be done and a stage to assess whether all the pre set-up goals and aims are achieved (Brent & Petrick 2007).

There are many different definitions of the term project management (Atkinson 1999), but the following definition is often used: project management is “The planning, monitoring and control of all aspects of a project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality and performance”. This is the definition for project management from the British Standard for project management BS6079, (1996). The project manager is responsible for these aspects within project management (OGC 2009). The project manager plays an important part within a project. The project manager will be involved at the start of a project and will confirm that the project results will be delivered as planned (Mishra et al. 2011) Therefore documents are important as well. Documents used within a project contain the information needed to execute the project en to achieve the goals of the project.

6. Sustainability and projects

The combination of sustainability in project management is a field of study that is growing but is still in a beginning phase (Gareis, Heumann & Martinuzzi 2009). As more organizations start to see the importance of sustainability, organizations will search for a way to integrate sustainability within their organizations. Therefore project management can play a tremendous role. Project management is a way to implement change into an organization and sustainability means change, because sustainability is not yet a part of the nature of organizations (Turner & Müller 2003). Thereby the result of the project should be sustainable but projects itself can also be executed in a sustainable way.

Mishra et al. (2011) describe the importance of ethics within achieving sustainability within projects. They conclude that ethic is important towards sustainability within projects. Ethical decisions of an organizations are mostly based on personal ethics (Quinn 1997), so personal values are important. Keeping ethics in mind while executing a project will keep “the flow of the relationship with the management integrated” and it is important “in gaining the support of the project team which is paramount for achieving success”(Mishra et al. 2011). So ethic will result in a sustainable end result of the project.

To implement ethics / value’s within a project the project manager must take responsibility, because he will be the one to ensure that all the people involved in the project behave ethically (Mishra et al. 2011). The Vice-President of the IPMA confirms this in her speech, at the 22nd World Congress of the International Project Management Association (IPMA) in 2008, where she stated that “the further development of the project management profession
requires project managers to take responsibility for sustainability” (McKinlay 2008, cited in Silvius & Schipper 2009). Furthermore Silvius & Schipper (2012) say that the project manager and the team members of the project manager can “play a key-role” in sustainability in a project, but therefore the project manager must have certain skills towards the understanding/recognizing of sustainability in projects.

Furthermore the structure and culture of an organization executing a project influences the way they will approach a project (Gareis, Heumann & Martinuzzi 2009). There are several standards which can be used for approaching a project and while executing a project e.g. PMbok, ICB and PRINCE2 (Gareis et al. 2010). Within these standards the first stage is discussed by Gareis et al (2010) and they concluded that the first stage supports sustainability within projects because it considers some sustainability principles. This gets supported by Taylor (2008) he stated that sustainability matters needs to be implemented into a project plan, which is one of the first documents used within a project.

7. Summary

Based upon the literature the following research question is phrased;

"How do organizations integrate the concepts of sustainability into the way they execute and manage projects?"

Concluding the literature there are many different aspects that influence the integration of sustainability in projects. These aspects can be categorized within the four levels; 1: External 2: Organization 3: Project 4: Person. These are based on the four principle levels of Taylor (2006). The government level can be changed into external which includes both government (state) and society (e.g. customers, collaborative partners), because of the earlier described importance of the society. Based on the 7S-model of Waterman et al. (1980) we can describe the internal factors that influence the sustainability within organizations and projects also because a project is a temporary organization within an organization (OGC 2009). To visualize the aspects that influence the sustainability within projects in the four levels and the integration approaches, the following model is created (figure 1).

Based upon this model and in relation to the research question a more specific research question and hypothesis are phrased:

"How do the driving forces contribute to sustainability in projects in practice?"

"The driving forces contribute to the integration of sustainability in projects”.

To investigate if the hypothesis can be accepted or has to be rejected, case study research is used.
8. Methodology

The research strategy used for this research is a case study. A case study is the appropriate research method to answer the research question, because this research is about finding out how the driving forces contribute to sustainability in project in practice (Yin, 2003).

The organization used for the case study is Landstede MBO a school of vocational education in Zwolle, the Netherlands. The reason why this organization is chosen is because the core business of a school is education and education is an important factor of the highest reachable level in sustainability (Silvius 2012).

In this case study desk research and field research are used. Desk research is partly used to prepare for the in-depth interviews and to see if the concepts of sustainability are described in the strategy of Landstede MBO. Furthermore the in-depth interviews are used to gather more specific information about all the driving forces and how they contribute to sustainability in projects.

8.1 Sample

The sample for the in-depth interviews is based on both core-business and the supporting activities. Thereby we only interviewed project managers because of the influence they have within projects and their overview of a project. The interviews were done at the 5th of November 2012.
8.2 Specified research subjects

The central question during the in-depth interviews was what driving forces make respondents integrate sustainability in projects.

The in-depth interviews started with a general question about their interpretation of sustainability and project management. Then the definitions of both concepts, according to the literature review, were given to the respondents. This was partly done to state a common understanding of both concepts, and also as a base for questioning the respondents about driving forces that made or did not make them integrate sustainability in projects (Table 1).

To analyze the results from the in-depth interviews coding is done based on the driving forces of the 9S Wheel (figure 1).

<table>
<thead>
<tr>
<th>Questions</th>
<th>Driving forces (S)</th>
</tr>
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<tbody>
<tr>
<td>What do you think sustainability is?</td>
<td>x</td>
</tr>
<tr>
<td>What do you think project management is?</td>
<td>x</td>
</tr>
<tr>
<td>Are the things stated in the strategy nota of Landstede actually applied?</td>
<td>x</td>
</tr>
<tr>
<td>In which projects are you involved?</td>
<td>x</td>
</tr>
<tr>
<td>What is your role in projects?</td>
<td>x</td>
</tr>
<tr>
<td>How is sustainability integrated/applied in projects?</td>
<td>x</td>
</tr>
<tr>
<td>Is sustainability integrated/applied in all the projects?</td>
<td>x</td>
</tr>
<tr>
<td>When during a project is sustainability integrated, which phase?</td>
<td>x</td>
</tr>
<tr>
<td>Who within the project starts talking about sustainability?</td>
<td>x</td>
</tr>
<tr>
<td>What is your role in sustainability in projects?</td>
<td>x</td>
</tr>
<tr>
<td>Do you integrate short-term of long-term aspects of sustainability in projects?</td>
<td>x</td>
</tr>
<tr>
<td>In which documents are sustainability aspects included?</td>
<td>x</td>
</tr>
<tr>
<td>Does Landstede/do you make use of standards for the projects?</td>
<td>x</td>
</tr>
<tr>
<td>Are you aware of the fact that a project manager has a lot of influence for integrating sustainability in project management?</td>
<td>x</td>
</tr>
</tbody>
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Table 1: Questions and expected corresponding answers per driving force
9. The case

Desk research is partly used to prepare for the in-depth interviews and it is also used to describe the organization. The desk research is based upon the summary of the strategy note; Landstede Group Strategy Note 2010-2015 (2009) and the internet page of Landstede MBO Zwolle (2012).

9.1 Landstede

Landstede as organization goes for valuable learning, living and working. It offers a wide range of services from a Christian inspiration in the field of vocational education, secondary education and education for adults and also in the field of welfare, childcare and recycling. Most activities of Landstede are centered in and around the cities: Harderwijk, Dronten, Raalte, Kampen and Zwolle.

This Christian inspiration is the leading base for their values. Their values are:

- Developing everyone’s talent
- Respecting each other’s individuality
- The encounter with each other
- The attention to questions about the meaning of everything
- An individual responsibility for yourself, others and society: acting in a responsible manner with a vies on the society

9.2 Landstede MBO Zwolle

Landstede MBO Zwolle offers vocational education to youth and adults in the city Zwolle. Landstede MBO Zwolle offers courses on the subjects: trade & commerce, office management, security, design & entertainment, health care, education & childcare, fashion & beauty, technique & innovation, sports, logistics, design & entertainment, hospitality, ICT & technology. The programs are offered from six different locations across Zwolle.

9.3 Organizations structure

Because Landstede wants to operate locally the organization structure is divisionalized, which makes it possible to act upon the local requests in the market. Landstede has chosen for self-supporting teams for the different course areas and locations.

9.4 Strategy and sustainability

Upon the following five value’s Landstede bases the strategy: talent development, meeting, respect, meaningfulness, responsibility. One of the four profile characteristics of Landstede focuses on local involvement, co-operation and responsibility, taking care of the environment and initiate sustainable local activities.

10. Results & analysis

The results from the case study are analyzed per S of the 9S Wheel as a whole.
State: All three respondents experience influence of the state e.g. the law for working conditions, a course about learning, career and citizenship (LCC) for all students of the vocational education and the 'monitor sustainable purchasing 2011' with regulations for a governmental organ to purchase conform the European law. The respondents interpret these regulations to fit the strategy of Landstede and conform their own values. R1 navigates procurement towards local partners within the European law for procurement.

Because there are no practical tools given by the government to implement LCC R2 stated that every teacher is free to interpret and perform the LCC in their own way.

R3 sees the benefits of the regulations set up by the state, because the European law makes her more aware of the subjects of sustainability and forces her to think of it at a early stage of a project.

Society: Landstede focus on some flagships if it’s about sustainability e.g. R3 says that the Nooterhof in Zwolle is an example for a sustainable project of Landstede, this is an earth ship (a building build of recycled materials and self supporting in energy use), but sometimes she feels that Landstede rather chooses a flagship than integrating sustainability the entire organizations and all projects. R1 confirms that the appearance towards the society is sometimes more important than the economical benefits but on the other hand the appearance also contributes in attracting more students which will lead in more economical benefits. R1 states that in an economical view the earth ship was not a good investment but on the other hand it delivered Landstede a lot of public relations (PR). R2 on the other hand feels mostly personal influenced by the society, she feels social responsible because the society expects Landstede to behave in a sustainable way.

Systems/structure: All three respondents confirm the fact that Landstede does not make use of project management standards or methods (e.g. PRINCE2) and there is no project office which supports projects to be executed in a uniform way. Thereby the structure of the organization is decentralized which makes it even more difficult to execute project in a uniform way.

The structure of Landstede is decentralized because of the value of Landstede to operate with different relative small branches which makes it for example possible for the porter of each school to know the students (R1).

R2 states that during the meetings with colleague program managers the subject of sustainability and standards for project management are not discussed. Furthermore R3 states that sustainability has been on the agenda of a regional coordinator of facility services for a couple of years, but it is not elaborated in a policy yet. The other regional coordinators know this but they will/cannot corporate with him to elaborate this, because their busy with their own tasks. Only the purchasing projects are sometimes forced to work with a standard procedure because of the European law for procurement.
R3 says that she has the space/freedom in her job to introduce sustainability into her projects, but as stated it is her choice and she is not forced by Landstede. R2 supports the personal freedom in the projects by pointing out that she is free to add things to the content of a course if she thinks it beneficial for students (e.g. extra attention on the LCC).

**Strategy:** Sustainability is part of the strategy of Landstede, as described in our desk research. During the interviews it was clear that all three respondents were aware of the sustainability subjects in the strategy of Landstede. For example when the interviewer asked: “...one of the values of Landstede is every persons talent...” R1 filled in the rest of the sentence with “well developed”. All respondents referred several times to the strategy during the interviews. Local involvement/co-operation (R1 & R2), sustainable employee policies and sustainable co-operation (R1 & R3) and social responsibility (R2 & R3) is referred to. This shows that the project managers which are interviewed are aware of the strategy of Landstede.

When the respondents were asked by whom or which they were inspired with the integration of sustainability in projects, R3 answered by nobody / nothing besides the strategy. She translated the strategy of Landstede herself to make it more practical to use it in the cleaning procurement project. Thereby R1 makes use of his common sense to integrate the strategy. R2 feels that she gets inspired by her own values.

Although the project managers are aware of the strategies of Landstede they pick out different subject of which they think that are of importance to the project. R2 also states that there might be personal an local differences between incorporation of the values of Landstede within the organization.

R2 and R3 state that the starting point of projects sustainability is included, but during the project sometimes the sustainability aspects are not integrated because of economical reasons. Both state that Landstede sometimes rather chooses short-term sustainability instead of long-term because of the high investment at the beginning.

The procurement also focuses more on sustainability by changing their procurement strategy, whereby the purchaser gives the budget so that the supplier can show what he/she can deliver for that amount. Thereby the innovativeness gets directly supported and sustainability gets indirectly supported. In this way Landstede also makes an optimal use of the expertise of the supplier (R3) By the procurement of the cleaning the contract period was changed into a longer period to get the highest quality, which leads to a better price for the cleaning service. But also to collaborate more with the supplier, and thereby work on the social part of sustainability (R3). This procurement project of the cleaning had a long-term oriented strategy.

**Style:** R1 and R3 both put their focus within their leadership style on co-operation and trust, “the base of co-operation is trust” (R3). When R1 talks about calculations for small building projects, he states that the relationship with stakeholders is relatively more important than the costs. Also communication contributes to a more sustainable way of working (R3).
Furthermore R3 is free to introduce sustainability in projects because of an open leadership style.

*Staff:* R2 could not describe the content of the concepts of sustainability, while she was already integrating a high level of social sustainability within her projects.

R1 puts the focus of sustainability on the environmental part and only R3 puts the emphasis on all three aspects (the “Triple Bottom Line”). This influences the result of a project, because they only incorporate these aspects of which they know the content. R1 for example feels his projects are sustainable if ecological friendly resources are used.

R3 told about sustainability meetings that were introduced into Landstede some time ago. She said that employees of Landstede kept talking about the practical incorporation of sustainability like e.g. energy saving light bulbs and double glazing. The content of the meetings stayed on this level and that’s why the meetings did not last.

To improve the knowledge of the staff Landstede organizes courses for employees directly related to the core business, mostly not for supporting staff e.g. project managers, which means that mostly teachers are obligated to join courses (LOB’s). R2 confirms this she just signed in for a sustainability course but originally she wasn’t invited. The invitation was only send to teachers.

*Skills:* R2 sets-up projects to develop educational programs. Landstede MBO welfare sees the importance of integrating sustainability into their educational program, that is why they put most time and effort in the coaching of students, they want the students to treat others in the same way as they are treated themselves. That is why the course focuses more on way they treat people instead of the content of the profession the students are learning for (R2). So the skills of Landstede invite project managers to integrate sustainability.

And because of the core business of Landstede is education R3 invited the cleaning companies that were not chosen by Landstede in the procurement project, to explain them what they could do better the next time, so she educate them. Because the skills of Landstede are about education (which is inviting to incorporate a high level of sustainability) R3 includes some educational skills in the way she executes projects.

Furthermore R1 states that they keep a sustainable co-operation with all their partners so that students of Landstede can do their internships at local companies. Because Landstede is an education organization, he invests in a sustainable co-operation with partners which contributes to the skills of Landstede.

*Shared Values:* All three project managers feel the importance of sustainability e.g. R1 says that we are all guests on planet earth so we need to take care of it.

R2 & R3 both followed voluntarily a sustainability course offered by Landstede, this shows that sustainability is one of their values as well.
During the initiation of a project R2 looks at the budget, but if the social responsibility risks are too high she will not do the project, because it does not fit her values.

R3 always introduces sustainability aspects within her projects although often the does not get the budget to do so, because these sustainability investments are often high and have a long-term payback time, which she regrets.

R1 finds it difficult to convince the supplier to be sustainable (e.g. force them to use computers instead of print and use public transport), because he don't want to interfere with their personal choices and values. This shows the importance of shared values within all the stakeholders.

It is helpful is all the shared values are the same in a project; R3 says that she wants the supplier to have the same values as Landstede. R2 says that the personal values of a project manager are important within Landstede because the top management is not directly steering this. R2 describes sustainability as a way of living life and her direct colleague also feels that way about sustainability, these shared values helps them by incorporating sustainability in projects. R3 supports this by saying that sustainability is grounded in the nature of people and they really want to handle sustainable.

11. Conclusion

The driving forces of the 9S Wheel contribute to sustainability as followed.

State: The regulations set up by the state gives ground rules and guidelines so (project) managers can cope with them in a creative way. Thereby they influence a project because it makes people aware of sustainability aspects.

Society: Appearance, for example by flagships/PR, is a way of carrying out sustainability towards the society. This is important because an organization depends on the society because it reflects what their customers want/expect. This shows the pressure from the society.

The society set certain standards about sustainability for e.g. anything less than double glazing is not accepted anymore. So organizations get forced to live up to these standards.

Systems/structure: Making use of a standard/method for project management is an important drive towards sustainability because it defines the project from the beginning, but the use of systems and structure can support sustainability although it is still important to keep some freedom for the project manager in the content of a project. This supports creativity which contributes to sustainability.

If there is no structure and no systems that supports projects there is no driving force that links the strategy to projects.
**Strategy:** The link between the sustainability in the strategy and the actual incorporation of sustainability in projects is of big importance if there are no systems (standards/methods), then project managers can interpret the strategy in their own way.

The strategy of a project is mostly short-term oriented and sustainability is about short-term and long-term orientation and that makes it difficult to integrate sustainability in projects. The other way around a short- and long-term oriented strategy for a project is necessary.

**Style:** If the project manager leadership style is open, other project members and partners feel more free to share their values and ideas about sustainability as a driving force.

**Staff:** The knowledge about the concepts of sustainability are important towards the integration of all three aspects of sustainability in projects.

The approach towards sustainability must be holistic, both core business employees and supportive employees should be involved.

**Skills:** Because the core business needs to be sustainable, due to other driving forces e.g. state, society and strategy, the projects to organize the core business should content sustainability.

**Shared Values:** Shared values are a very important drive towards sustainability. All the stakeholders of a project should share values of sustainability otherwise is will be very difficult to get them on the same line and level. Shared values which are based on personal values/ethics are an important base when implementing sustainability in project because it makes people think of sustainability in a natural way.

### 11.1 Overall conclusions

A project could also be sustainable without the contribution of all the driving forces. In this case study the non/less contributing driving forces are strategy, systems, structure and staff. This shows that sustainability is not fully imbedded in the organization.

Within the 7’s model all the aspects are having an interrelationship, so they have an influence on each other; they make each other stronger. The literature review and the case study supports this so all the driving forces of the 9S Wheel should contribute to reach the highest level of sustainability in projects.

For example in this case study it would have been easier to incorporate sustainability in projects the non contributing driving forces would contribute, because now sustainability within projects is driven by the other forces, especially the shared values.

Systems and structure should support the strategy so that it would be easier to support sustainability in projects. In this case study projects sometimes are not sustainable because of strategy. There are no systems and no structure to support sustainability. An important reason why (some) projects are sustainable is because of the strong shared values.
On the top (State, Society, partly Strategy), there are driving forces and on the bottom there are driving forces (Shared values, partly Staff) as well but because of the non-contributory driving forces the link misses. This is supported by Labuschagne et al. (2007) who stated “the traditional top–down and bottom–up approaches to incorporate sustainability within the organisation have not seemed to be effective to a large extent”

12. Discussion and limitations

Based on this case study the hypothesis should be accepted because the driving forces are contributory towards the integration of sustainability in projects. But not all the driving forces of the 9S Wheel need to contribute for projects to be sustainable. The case study shows that the 9S Wheel (figure 1) is indeed a good tool to look at sustainability in projects. The missing links (the non contributing forces) were found and can be improved for a more sustainable way of doing projects, the highest level, a holistic approach. All the driving forces are interrelated and they make each other stronger. The 9S Wheel can be used to identify and optimize sustainability in projects.

The limitation of this case study is that the core business of Landstede and the environment in which it operates is invitational the organization to incorporate sustainability in projects (Skills). Therefore more similar case studies need to be done in organizations with different core businesses.

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About the authors

**Bianca van Es**

After obtaining a Bachelor degree in Facility Management in 2004, Bianca van Es has worked several years as a Facility Manager in healthcare. While studying fulltime at the International MSc Real Estate Management at the University of Greenwich, London, she works as a senior scheduler at Landstede vocational education. The course ‘sustainability in project management’ made her curious what did or did not made project managers at Landstede integrate sustainability in their projects. By this paper she hopes to give insight into this theme. Bianca hopes to finish her Master in October 2013 within the topic of Corporate Real Estate Management, while looking forward to an interesting career in Real Estate. Bianca can be contacted at bianca.vanes@hotmail.com.

**Marjolein Jonker**

Marjolein Jonker finished her Bachelor degree in Facility Management in 2012 and went straight on with the MSc Facility Management at the University of Greenwich. The Project Management course took her interest from the very start and especially when it was about using Project Management to integrate sustainability in organizations. Sustainability nowadays is so important, we cannot enter an organization without knowing the importance of sustainability. Hopefully this paper contributes to the knowledge in the field and gives a useful tool. Marjolein hopes to finish her MSc Facility Management in October 2013 and after that she going to look for an interesting and challenging career. She can be contacted at m.v.jonker@gmail.com.