

The Hitchhikers Guide to Simulation Games and the Sustainable Organization



*Indications for the usability of simulation games
for the change process towards a sustainable organization*

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Colophon

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Corporate social responsibility; sustainable organization; organizational change; change process; simulation games.

Steekwoorden

Maatschappelijk verantwoord ondernemen; duurzame organisatie; organisatie verandering; verandertraject; spelsimulaties.

I. Summary

The sustainable organization is an organization that wants to be sustainable. The organization has a driving force to become sustainable and the organization goes beyond legal requirements to achieve this aspect. The sustainable organization consists of seven aspects: the sustainability manager, setting goals, top manager, the individual employee, changing the driving force of the organization, cooperation with external stakeholders, and knowledge and expertise. To become a sustainable organization, a change process could be used. There are six aspects that make the change process towards a sustainable organization different from other change processes. These aspects are: appropriate assimilation with the organization, maintaining the driving force, maintaining motivation, learning, problem solving, and creating a realization of lack of knowledge.

In this research we look at simulation games as an intervention tool, and how they could contribute to the change process towards a sustainable organization. A simulation game is an intervention tool that is a game with an explicit and well-thought meaning. Simulation games are a learning method in which people participate in a structured activity or simulation. A simulation game can be created to achieve 6 goals: learning, creating knowledge, enhancing communication, developing skills, motivation, and solving problems.

Connections were made in this research between the goals of simulation games and the focal points of the sustainable organization and the aspects of the change process towards the sustainable organization. In image II.I. we can see the connections that can be made between the goals and aspects. A connection is represented by a colored arrow that corresponds to the color of the goal of the simulation game.

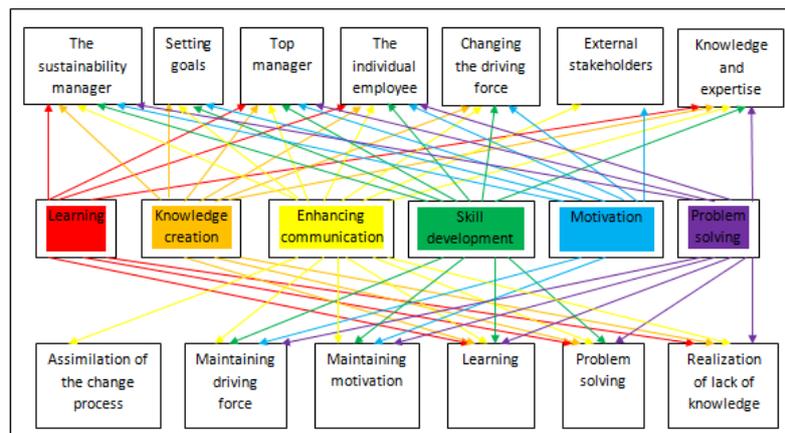


Image I.I. Connections between the goals of simulation games and the aspects of the sustainable organization and the aspects of the change process towards the sustainable organization.

As can be seen in image I.I. there are a lot of connections made between the different goals and aspects. Each goal of the simulation game influences quite a lot of aspects of the sustainable organization and the change process. Most connections are made with the people that work in the sustainable organization such as the sustainability manager, the top manager and the individual employee. Learning and associated aspects are also aided with a simulation game. Stakeholders and the assimilation of the change process are not influenced that well by the simulation game.

These theoretical connections have been used to analyze four games. In the Netherlands there are five different simulation games. Four of these games are used as case studies in this research. The analysis was based on documentation, interviews and observations. The games are:

- Business Model Canvas +: Play it Forward: A game where the player is challenged to create a sustainable business concept.

- Skytech and Cruiser: Skytech is a game where the player is challenged to create and introduce a CSR strategy in an organization. Cruiser is the translated version of Skytech.
- Sella Ketensimulator: A game where the player is challenged to create a sustainable supply chain.
- Smart Grid Game: A game where the player is a stakeholder that needs to cooperate to create a sustainable energy grid.

The games that have been presented in the case studies show the variety of possibilities of simulation games. Each game has its own qualities, has different goals and works best on different focal points of the sustainable organization and the change process towards the sustainable organization. When we look at image I.II., we see two focal points with an extra thick black frame and a few black arrows. These are the focal points that are not represented in the games we've researched in the case studies.

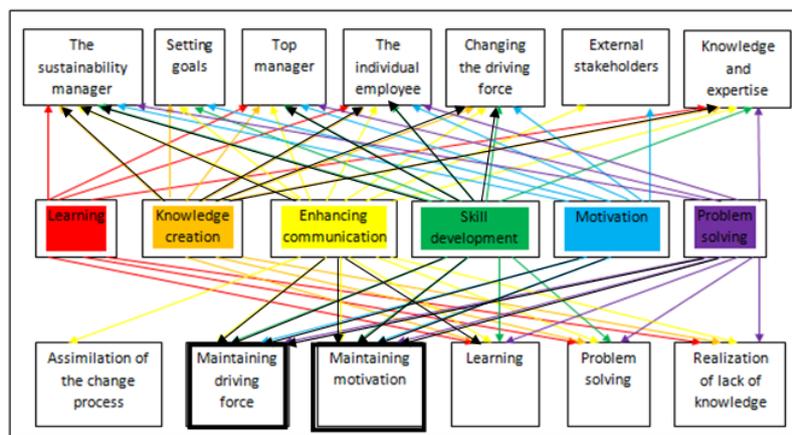


Image I.II. The missing connections between the goals of simulation games and the focal points of the sustainable organization and the focal points of the change process towards the sustainable organization.

In image I.II. we can see maintaining the driving force and maintaining motivation were not explicitly represented in the games. Therefore the assumption that the goals of games help maintaining the driving force and motivation have not been verified by the case studies. The fact that the focal points knowledge creation and skill development have been represented in only one game is an explanation why not all connections of these goals have been verified. Enhancing communication should result in learning and a better sustainability manager, however this is not reflected in the case studies. Though there are a few connections not represented in the case studies it is safe to say that the simulation games presented in the case studies contribute to a change process towards a sustainable organization.

The following research question was central to this research:

Which indications can be found for the usability of simulation games for the change process towards a sustainable organization; and are these indications reflected in simulation game practices?

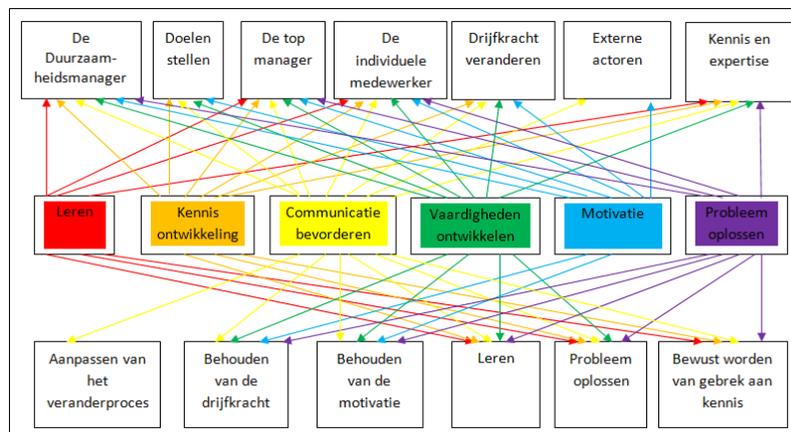
This research concludes with the statement that simulation games can play an important role in the change process towards the sustainable organization. The goals of simulation games can contribute to the focal points of the sustainable organization and the focal points of the change process towards the sustainable organization. This contribution is made possible because they fit together on many different elements. These indications suggest that simulations games for the change process towards a sustainable organization are usable. The games that are currently available in the Netherlands are not able to contribute to every focal point of the sustainable organization and the change process. Most games can only cater to a few focal points, and lack focal on the individual employee or the ability to maintain the driving force and motivation. Simulation games are not useful in every situation but can be useful if the goal of the game complies with the goal of the change process.

II. Samenvatting

De duurzame organisatie is een organisatie die duurzaam wil zijn. De organisatie gaat verder dan wettelijke verplichtingen en heeft een drijfkracht die zich richt op het worden van een duurzame organisatie. De duurzame organisatie bevat zeven aanspreekpunten: de duurzaamheidsmanager, het stellen van doelen, de topmanager, de individuele medewerker, het veranderen van de drijfkracht van de organisatie, medewerking van externe actoren en kennis en expertise. Om een duurzame organisatie te worden is een veranderproces nodig. Er zijn zes aanspreekpunten die het veranderproces naar een duurzame organisatie onderscheiden van andere veranderprocessen. Deze aanspreekpunten zijn: goede afstemming van het veranderproces op de organisatie, behouden van de drijfkracht, behouden van de motivatie, leren, het oplossen van problemen en het bewust worden van een gebrek aan kennis.

In dit onderzoek kijken we naar spelsimulatie als een interventiemiddel en hoe dat instrument kan bijdragen aan het veranderproces naar een duurzame organisatie. Een spelsimulatie is een interventiemiddel dat een expliciete en onderliggende boodschap heeft. Spelsimulaties zijn een leer methode waarin mensen participeren in een gestructureerde activiteit of simulatie. Een spelsimulatie kan ontwikkeld zijn om zes doelen te bereiken: leren, kennisontwikkeling, bevorderen van communicatie, ontwikkeling van vaardigheden en het oplossen van problemen.

Er zijn verbindingen gemaakt in dit onderzoek tussen de doelen van spelsimulaties en de aanspreekpunten van de duurzame organisatie en de aanspreekpunten van het veranderproces naar de duurzame organisatie. Op afbeelding II.1 zien we de verbindingen die gemaakt zijn tussen de doelen en aanspreekpunten. Een verbinding wordt weergegeven met een gekleurde pijl die overeenkomt met de kleur van een spelsimulatie.



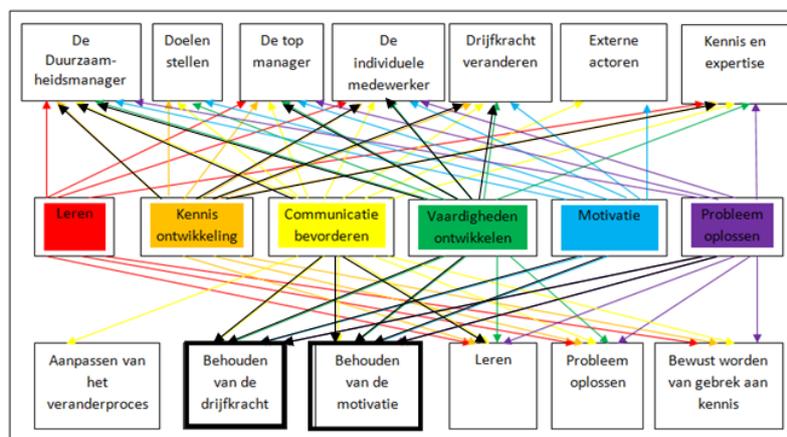
Afbeelding II.1. Verbindingen tussen de doelen van de spelsimulaties en de aanspreekpunten van de duurzame organisatie en de aanspreekpunten van het veranderproces naar de duurzame organisatie.

Zoals afbeelding II.1. laat zien is er een groot aantal verbindingen tussen de doelen en aanspreekpunten. Ieder doel van spelsimulaties beïnvloedt vele aanspreekpunten van de duurzame organisatie en het veranderproces. De meeste connecties worden gemaakt met de personen die werken in de duurzame organisatie, zoals de MVO- medewerker, de topmanager en de individuele medewerker. Leren en aanverwante aanspreekpunten worden ook beïnvloed door de spelsimulatie. Externe actoren en de aanpassing van het veranderproces worden niet sterk beïnvloed door de spelsimulatie.

Deze theoretische verbindingen zijn gebruikt om vier spellen te analyseren. In Nederland zijn er vijf verschillende spelsimulaties. Vier van deze spelsimulaties zijn gebruikt als casestudy in dit onderzoek. De analyse was gebaseerd op documentatie, interviews and observaties. Deze spellen zijn:

- Business Model Canvas +: Play it Forward: Een spel waarbij de speler uitgedaagd wordt tot het ontwikkelen van een duurzaam bedrijfsconcept.
- Skytech en Cruiser: Skytech is een spel waarbij de speler uitgedaagd wordt tot het ontwikkelen en invoeren van een MVO-strategie. Cruiser is de vertaalde versie van dit spel.
- Sella Ketensimulator: Een spel waarbij de speler wordt uitgedaagd tot het creëren van een duurzame keten.
- Smart Grid Game: Een spel waarbij de speler een actor is die moet samenwerken om een duurzaam elektriciteitsnetwerk te creëren.

De spellen die zijn gepresenteerd in de casestudies tonen de verschillende mogelijkheden van spelsimulaties. Elk spel heeft zijn eigen kwaliteiten, eigen doelen van spelsimulaties en werkt het beste op verschillende aanspreekpunten van de duurzame organisatie en het veranderproces naar de duurzame organisatie. Wanneer we naar afbeelding II.II. kijken, zien we twee aanspreekpunten die zwart geaccentueerd zijn en zwarte pijlen. Dit zijn de aanspreekpunten en verbindingen die niet teruggevonden zijn in de analyse van de spellen.



Afbeelding II.II. De ontbrekende verbindingen tussen de doelen van de spelsimulaties en de aanspreekpunten van de duurzame organisatie en de aanspreekpunten van het veranderproces naar de duurzame organisatie.

In afbeelding II.II zien we dat het behouden van de drijfkracht en het behouden van motivatie zijn niet expliciet vertegenwoordigd in de spellen. De aanname dat doelen van spellen een bijdrage aan deze twee aanspreekpunten leveren kan niet worden aangetoond door de casestudies. Het bevorderen van communicatie, een bijdrage kunnen leveren aan leren en een betere duurzaamheidsmanager worden ook niet weerspiegeld in het onderzoek. Hoewel enkele verbindingen niet werden bevestigd in de casestudies, is het duidelijk dat de spelsimulaties in dit onderzoek een bijdrage kunnen leveren aan het veranderproces naar een duurzame organisatie.

De volgende onderzoeksvraag stond centraal in dit onderzoek:

Welke indicaties kunnen gevonden worden voor de bruikbaarheid van spelsimulaties die ontwikkeld zijn voor een veranderproces naar een duurzame organisatie en zijn deze indicaties terug te vinden in simulatiespellen in de praktijk?

Dit onderzoek sluit af met de constatering dat spelsimulaties een belangrijke rol kunnen spelen in het veranderproces naar de duurzame organisatie. De doelen van spelsimulaties dragen bij aan de aanspreekpunten van de duurzame organisatie en de aanspreekpunten van het veranderproces naar de duurzame organisatie. Dit gebeurt doordat de doelen en aanspreekpunten goed op elkaar aansluiten. De spellen die nu in Nederland verkrijgbaar zijn leveren geen bijdrage aan elk aspect van de duurzame organisatie en het veranderproces. De meeste spellen kunnen slechts een bijdrage leveren aan enkele aanspreekpunten en er is een gebrek aan spellen die zich richten op de individuele werknemer of het behouden van de drijfkracht of het behouden van motivatie. Spelsimulaties zijn niet nuttig in elke situatie, maar kunnen nuttig zijn wanneer de doelen van het spel aansluiten bij de doelen van het veranderproces.

III. Preface

This research once started a long time ago, with a question Jan Jonker¹ asked me. The question was if I was interested in making an inventarisation of simulation games that were available for sustainability. It was the beginning of a trip that I've made for the past few months. Without a roadmap or guide it was difficult to find my direction. I hope to have made a useful hitchhikers guide about simulation games and corporate social responsibility, so others won't have to struggle as I did in the beginning. The title of this research is a reference to "The Hitchhikers guide to the Galaxy" by Douglas Adams. The hitchhikers guide is known for the usefulness of its knowledge in foreign and alien terrains. This research will try to be a useful guide to readers who don't know the terrain of sustainability, CSR and simulation games. The models developed throughout this research could be seen as the road maps of the things that have been explored. The result of this research will conclude whether this terrain will be worth visiting at all.

I welcome you to continue reading, and to continue in the spirit of the hitchhikers guide:

Don't Panic

¹ Jan Jonker is a professor of business administration with special attention to the sustainable organization at the Radboud University in Nijmegen, the Netherlands.

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Chapter 1: Introduction

Corporate Social Responsibility or CSR is a popular term used by many organizations. Many organizations develop a CSR-policy or CSR-report in which they want to emphasize what the organization wants to do to be more sustainable. In this research we see a sustainable organization as an organization that has incorporated CSR. The most accepted explanation is developed by Elkington (1994 *in* Steurer, 2009). Elkington sees CSR as a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with stakeholders on a voluntary basis. He also introduced the triple bottom line or the 3p's. Classic organizations create value on only one dimension: profit, where sustainable organizations create value on profit (economic sustainability) as well as planet (environmental sustainability) and people (human sustainability). A sustainable or CSR organization is created when these three dimensions are in a balance (Steurer, 2009 & Cramer et al., 2005). But this is just a theory, in practice it is quite difficult to become a sustainable organization.

There are several researches done on CSR in organizations. This research could be seen as one of those researches, for it will also aim to give insight on how to become a sustainable organization. But it isn't quite the same as those many researches, because in this research we will look at simulation games as well. While most researches focus on critical aspects of sustainable organizations, such as the reduction of waste or using less paper, this research focuses more on how a 'regular' organization can become a sustainable organization. Simulation games are therefore not a critical aspect of an organization but could be a tool in becoming a sustainable organization. Simulation games are not the regular games found in stores. Simulation games are games that simulate a problem that needs to be solved. Simulation games have a 'fun' factor but don't exist merely to have fun. While solving this problem the player acquires knowledge and new skills, but it is also fun to do.

This research will try to shed a light on the possibilities of simulation games on CSR. At this moment there is no research done on this subject. Therefore the question rose on how could these simulation games work? And what are the possibilities of these simulation games? Will it help organizations become a better sustainable organization or is it nothing more than fun? But first we will look at the problem that is central to this research:

1.1. Problem definition

The activities that organizations perform for creating and delivering goods and services create negative effects on the environment and society. These negative effects should be diminished, prevented or at least compensated to create a balance between people, planet and profit. When a organization is social responsible or sustainable it tries to internalize this balance in all aspects and activities of the organization. Currently Corporate Social Responsibility (CSR) is a hot item among organizations. A lot of organizations create their CSR-policy, but not every organization can be verified as a sustainable organization (Krishna, 2007).

According to several authors (Maon, Lindgreen & Swaen, 2009; Benn, Dunphy & Griffiths, 2003) a sustainable organization is the result of a change process. However there is no exact view on what this change process should look like. One research done by Lindgreen et al. (2011) proposed aspects

of a change process. But it did not explain what a change process should consist of and how it should be executed.

But when looking for change processes and organizational change we can look at organizational studies where the development and execution of change processes are a common part of research. One of these researches has been done by De Caluwé and Vermaak (2000 & 2008), who created a 'standard' change process that combined different viewpoints, but also gives enough space for the organizations' interpretations.

In these 'standard' change processes simulation games are regularly used and were part of research as well. De Caluwé et al. have proven a positive effect of games on organizational change processes (1996). Therefore it is an interesting question if simulation games also contribute to the change process towards a sustainable organization.

A problem that has arisen during initial literature research is the lack of literature and research available about simulation games created for CSR. This upcoming niche that combines simulation games and corporate social responsibility lacks a strong theoretical background and evaluation tool.

There are several problems among organizations that try to be more sustainable. Most companies start off with a great CSR-policy but in the end this isn't enough. Some CSR-policies entail regular activities and are used as a marketing tool. The discrepancy between the policies and actual actions is known in the environmental field as greenwashing and in the organizational change field as loosely coupled systems. Greenwashing is the use of vague and dubious claims about environmental stewardship for their own benefit, creating public confusion (Dahl, 2010). The phenomenon of (policy) goals that are set and that are not executed properly are called loosely coupled systems. This loose coupling of systems is also caused by vague and/or ambiguous policy goals. However according to De Caluwé and Vermaak (2000, pp. 16-17) loosely coupled systems could be prevented by the use of learning and feedback moments. Simulation games can provide both these qualities.

Another problem that is defined by De Caluwé and Vermaak (2000, p. 34) is that of structural conflicts. Structural conflicts are problems that keep existing within an organization even though (apparent) successful interventions were executed. In this case it means that an organization wants to be more sustainable, but still want to make profit. This results in a structural conflict between short term profit and long term sustainability. The lack of strong CSR policy led to severe blows to reputations of large organizations such as Exxon, Nestlé, and Nike (Maon, Lindgreen & Swaen, 2008).

With every research there is the question of whether it is a useful research. Though the abovementioned problems should give some indication, this needs to be specified. Below we will try to specify this as far as the social relevance (the benefits for the public) and the scientific relevance (the benefits for science) are concerned.

1.2. Social Relevance

The negative results of unsustainable organizing are clearly noticeable. Organizations create a large part of the environmental pollution and negative social impacts as we perceive it today. To diminish these negative impacts several organizations want to become a sustainable organization. This change cannot happen overnight but has to happen in a change process. When this change process and the important focal points of the sustainable organization and its change process becomes more clear,

this will contribute to several organizations in becoming more sustainable. Simulation games could also contribute the results of this process. Becoming sustainable also means different things to different organizations. Simulation games could help exploring the possibilities of CSR and start a dialogue about this subject. This research should give a clear answer to the question whether simulation games could be a useful tool in creating a sustainable organization. I am convinced that the results of this research could be useful for change agents, game developers and for organizations that want to be more sustainable.

1.3. Scientific relevance

This research will contribute to science because it will give an answer on how simulation games could help the change process towards CSR. There is a complete lack of knowledge on this field and therefore a new theory should be created. This theory will be developed by combining several different subjects and will be tried in practice. This theory is new and will add insight on the change towards a sustainable organization and the use of simulation games to achieve that. The theory could easily be used in further research on CSR simulation games and other tools that are used in a change process towards CSR.

1.4. Research field

The research field that is central in this research combines two separate fields. On the one hand it is the field of corporate social responsibility, specifically on the change process towards a CSR-organization. And on the other hand it is the field of Simulation Games, specifically the Simulation Games created for CSR. The research will be limited to:

- CSR that is applicable to a profit organization
- Organizational change processes that are used to change an organization towards CSR
- Simulation games that are created for enhancing a change process towards CSR

Though every subject will be briefly explained, the limitations as mentioned before are used to create a clearer and well defined research. We could have chosen to investigate all intervention tools, but due to time limits this will be limited to simulation games because this specific tool is increasingly used for creating a sustainable organization.

The games chosen for research have a link with corporate social responsibility. In total there were five off-the-shelf games available that were interesting. An off-the-shelf game is a game that are immediately purchasable, most of them via a consultancy office. Out of these five games, four game owners were interested in participating in this research within the time limit. In chapter 6 these games will be subject in the case studies. In the source list contact information can be found.

There are several types of games that are not included in this research. One of these is the type of games that are made on demand. These games are made specifically for a certain problem and organization. It is difficult to give a good view of these games and the availability of the game was important for the relevance of this research. There is also a new category of games in the simulation gaming world, which are called serious games. Serious games are computer games created with a serious goal instead of regular computer games. However initial research has shown that there are no solid serious games available that are especially created for CSR.

Now we know why this research should be done and what the limitations are, we will look at what the research will do. The research will have a goal that specifies this.

1.5. Research Goal

The main goal of this research is to explore whether simulation games are a useful tool when an organization wants to become a sustainable organization. It should also give a view on how the world of simulation games for the sustainable organization looks like. This exploration should result in a grounded theory about the relationship between simulation games and corporate social responsibility in organizations. It should also result in recommendations about the usefulness of simulation games in the change process towards CSR. When these goals are met organizations, game developers and change agents should be able to make an informed decision on this subject. A sub goal of this research is giving an explorative view on how the field of CSR-simulation games looks like.

Having a research goal is not enough, the research goal should be translated to the research question, to make the research easier.

1.6. Research questions

The main question in this research is:

Which indications can be found for the usability of simulation games for the change process towards a sustainable organization; and are these indications reflected in simulation game practices?

The main question in this research consists of two parts. The first part will focus on finding indications for the usability of simulation games for the change process towards a sustainable organization. When these indications have been found we will look at simulation game practices to see if these indications are reflected. To answer the main question easier we divide the question into four parts and 9 sub questions:

1.6.1. Sub questions

1. About CSR and the sustainable organization
 - a. What is a sustainable organization?
 - b. What are the relevant focal points of the sustainable organization?
2. The change process towards a sustainable organization
 - a. How can an organization become a sustainable organization?
 - b. What are the relevant focal points of such a change process?
3. About simulation games
 - a. What are simulation games?
 - b. What are the goals of simulation games?
4. About simulation games in the context of CSR
 - a. How can simulation games contribute to a change process towards a sustainable organization?
 - b. Which simulation games are available for the change process towards a sustainable organization?
 - c. In what respect do these games fit in with the developed theory?

Question 1 should be able to create a clear goal of the definition: the sustainable organization. The focal points should be able to specify this goal in smaller sub goals. Question 2 will research how to become this sustainable organization, why is a sustainable organization so difficult to create? What is unique about this change process? Question 3 will look at simulation games as a possible intervention tool. It will research on why simulation game could be a useful intervention tool in this context. Question 4 will try to combine all the answers from the previous sub questions. It will also look at the practice, because it is necessary to find out whether theory concurs with reality.

With these questions the research can start, but this cannot be done without giving more insight on technical aspects of the research. The next paragraph will try to explain why certain choices in this research have been made.

1.7. Research Design

As mentioned before, this research will be the first research on this subject, therefore it has an exploratory nature. Because it is still unclear how simulation games can affect a change process towards CSR the research has a certain amount of openness. Also there is no adequate and comprehensive theoretical framework available for this research, so it has to be developed in the course of this research.

The theory will be tested in interaction with experts and laity. The methods that have been used in this research are literature review and semi-structured interviews and non-participant observation. More information on the interview method and questions can be found in Annex 4, more information about the observation method can be found in Annex 5. The case studies and interviews that are conducted in this research are used to verify and clarify the developed theory, and will be given an equal voice in this research (Crotty, 1998). To supplement the case studies additional sources of information such as websites, pictures and other materials were used. There are several interviews held with different people that are involved in the life cycle of the simulation games. These people are: the game applicant, the game designer, the facilitator and the player. These categories are directly taken from De Caluwé, Hofstede and Peters (2008, pp. 18-19). We have tried to give all categories an equal voice in the case study, but this has been difficult due to the unavailability of certain persons and because some persons served a double role. Because of the double role that some of the interviewees had it was easier to do the analysis.

Now that the technical aspects have been defined, and the research has been introduced we can start the show. However like every (theater) show, this research also has a program. It explains how the research could be read.

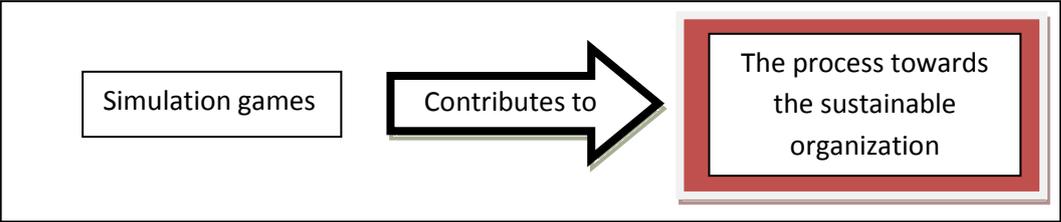
1.8. Research structure

The first three chapters will give insight on the following subjects: chapter 2 focuses on CSR (sub question 1), chapter 3 focuses on the change process and changing by learning (sub question 2), chapter 4 focuses on simulation games (sub question 3). In the chapters after these theoretical ones we will focus on sub question 4. In the fifth chapter the information found in chapters 2,3, and 4 come together and will be combined to create a comprehensive analytical framework. In the sixth chapter this framework will be used in several case studies. We will end this research with chapter 7, which will start by answering the sub questions and the main answer the main research question in the first paragraph: the conclusion. In paragraph 7.6. we will give recommendations and in

paragraph 7.7. we will reflect on the choices made in this research in the discussion. The research will end with a personal reflection on the research and several annexes. Annex 3 is the definition guide that gives a quick answer to the most used terms in this research. It is recommended to read the chapters in the right order because the knowledge in the previous chapters is the start of the following chapter. Throughout this research the conceptual model of this research will be further explained and will become the analytical model. The analytical model is a graph that gives a view of how different variables connect to each other.

1.9. Conceptual model

Because we don't know a lot at this moment about the different variables at this point in the research the conceptual model seems quite simple:



1.9.1. The conceptual model.

In the first chapter we will find out more about CSR and the Sustainable organization, which are highlighted in the conceptual model.

Chapter 2: Corporate Social Responsibility

In this chapter we will research what corporate social responsibility or CSR actually means. How was this term developed and why are organizations so keen to become a sustainable organization. We look at the different levels of CSR to clarify the differences between not being sustainable at all and what it means to be sustainable. After that we will look at what it actually means to become a CSR organization, and why a change process towards a sustainable organization is necessary. What are the different focal points of this type of organization, and how do these fit into the conceptual model? But first we will give a brief introduction on the problem.

The world we live in today is facing many problems related to economic, natural and environmental sustainability. Overpopulation, bio-degradation, climatic imbalance, over-pollution, toxicity, rapid industrialization and depletion of natural capital and many other processes result in a degrading environmental and social quality for living (Krishna, 2007, p. II). The industry's and economic growth and technological development could at least be partly blamed for this environmental degradation as well as for the degradation of living conditions (Cramer & Loeber, 2011, Lozano, 2012). More and more organizations, NGO's, government and customers seem to acknowledge this. Which is why there are a lot of organizations that try to be more sustainable and diminish their negative impact on nature and society. This phenomenon is called corporate social responsibility or sustainable organizing. Sustainability involves all aspects of society as well as all aspects of corporate activity. Therefore the entire organization should be involved in the CSR-policy (Aras & Crowther, 2009, p. 42). In the next paragraph we try to give a view on what the definition of CSR is and how it was developed.

2.1. Corporate Social Responsibility

Corporate Social Responsibility, or CSR, means that an organization takes responsibility for the consequences of their own behavior. The term was first coined in the 1950's (Maon, Lindgreen & Swaen, 2009). However nowadays there are several different definitions for the term Corporate Social Responsibility, one of the most prevailing ones is developed by the World Business Council for Sustainable Development. According to them CSR is: "the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life"(quoted by: Cramer & Loeber, 2011). Though it gives a good view on the social impacts of the organization (or human sustainability) it doesn't include the environmental sustainability. Therefore this is not the most accurate definition of CSR. But luckily this is not the only definition: in 2008 Dahlsrud found 37 different definitions on CSR (Bielecki, 2011). To limit ourselves in this research we'll use the most accepted definition of CSR that has been developed by Elkington (1994 *in* Steurer, 2009). Elkington believes CSR is a concept in which organizations incorporate the social and environmental concerns, the organization has interactions with stakeholders on a voluntary basis. This is contrary to normal organizations who focus their core business solely on creating profit. When an organization acts upon their corporate social responsibility the three pillars People, Planet and Profit are balanced evenly. By doing this the negative consequences of their actions are diminished. This vision is also called the Triple Bottom Line (Steurer, 2009, Cramer & van der Heijden, 2005, Cramer & Loeber, 2011, Lozano, 2012). Currently Jonker, prefers using the term Multi Value Creation. The idea is based on the same criteria as Elkington (People, Planet and Profit) but focuses on the creation of value, instead of diminishing negative effects (Jonker, Tap & van Straaten, 2012). CSR has been developed from relative

uncoordinated and voluntary practices to more explicit commitments in response to stakeholder pressures and, recently, ongoing future commitments (Maon, Lindgreen, Swaen, 2009). When we try to translate these definitions towards the practical use for an organization we conclude that an organization that is involved in Corporate Social Responsibility focuses on diminishing their negative impact on nature and society while still making profit, but preferably the organization makes profit on all pillars (people, planet and profit).

In this research both CSR and sustainable organizing will be used as synonyms. Before we continue on what this means for an organization we will first focus on why an organization wants to become a sustainable organization.

2.2. Motivations for a sustainable organization

The 'normal' organization will feel pressure from legal restrictions, financial drivers, customer preferences, investor concerns, NGO campaigns, government and peer pressure, and employee concerns (Polgreen, 2005, p. 101). The organization is no longer an instrument of shareholders but exists within society and has responsibilities towards that society (Aras & Crowther, 2009, p. 23). Sustainable products and services are growing and are being linked to consumer health and safety. A market research company estimated the market for products that appeal to consumers who value health, the environment, social justice, personal development and sustainable living at over \$200 billion in the US alone (Business for Social responsibility, 2006 in Krishna, 2007, pp. 29-30). This means the motivation for becoming more CSR doesn't always lie in a pure altruistic sense. According to Zadek there are four reasons to become a sustaining organization. The first reason is to make sure that their public image doesn't lose credibility. The second reason is to improve traditional business, i.e. cost reduction or waste management. The third reason is the strategic business case, in which an organization recognizes that changes could lead to a better long-term business performance. The fourth reason for a sustainable organization is learning, innovation and risk management. The organization recognizes that the most successful organizations are those who continually change and learn (Cramer & Loeber, 2011). No matter the differences in motivations, organizations like to be more sustainable. Tools such as ISO 26000 (Hahn, 2012), ISO 14001 and the environmental impact assessment are designed to help them do so (Polgreen, 2005, p. 97). Although there are many differences between organizations, being sustainable has become a crucial aspect of the core business (Cramer & Loeber, 2011). The motivations for an organization to become more sustainable are quite different from each other, but should give enough reasons to become a sustainable organization.

Now that we know why organizations want to become more sustainable and how CSR has been developed, we can shed some light on the sustainable organization. The next paragraph gives some insight on the differences between the one organization and the other on CSR. We need to know this because with this knowledge we can figure out the ultimate goal: the sustainable organization.

2.3. Levels of CSR

There are hardly no organizations that do nothing about Corporate Social Responsibility. Environmental and social issues are affecting most organizations in some way. At a minimum organizations will be subject to regulations on how waste is handled (Polgreen, 2005, p. 97). But there are differences between the first organizations CSR-activities and the following ones. Benn, Dunphy and Griffiths created the sustainable level model. This model has six levels where an

organization can be in. These levels works as a ladder that starts with an organization that is rejecting any form of sustainability and ends with the sustainable organization. These levels are:

1. *Rejection*

The organizations rejects any form of sustainability. All resources, employees, community, infrastructure and physical resources are there to be used (up). There is no commitment on preventing any negative effects of the organization and prefer ignoring or bribing complainers.

2. *Non-responsiveness*

The organization doesn't know anything about the negative results and therefore won't take any actions. Negative effects of the organization are taken for granted or ignored (Maon, Lindgreen & Swaen, 2009)

3. *Compliance*

The organization focuses on diminishing negative effect of the organization due to meet standards set by governments. The organization is reactive on the legal requirements, sometimes it wants to meet voluntary standards, set by NGO's, as well (Maon, Lindgreen & Swaen, 2009). For small organizations this could be a simple review of national waste disposal procedures, for larger organizations this could be a major undertaking to comply with all national and international environmental legislations (Polgreen, 2005, p. 105).

4. *Efficiency*

The organization wants to decrease costs and increase efficiency (Maon, Lindgreen & Swaen, 2009). The organization is doing more with less. Without ensuring quality of his products, the organization will use less of its resources and therefore reduce waste and pollution (Krishna, 2007, p. 4). To meet this goal it needs to diminish waste. Waste management may include cooperation with other organizations, such as waste disposal facilities or organizations that make useful products of waste (Maon, Lindgreen & Swaen, 2009).

5. *Strategic proactivity*

The organization recognizes that if it wants to be successful in the future, it has to make the right choices. Sustainability is an important part of the organization because it will give the organization a long term profit.

6. *The sustainable organization*

The driving force of the organization is to be sustainable. Though profit is important, the organization goes beyond the legal requirements or even opportunities. It is sustainable because it wants to be a sustainable organization (Benn, Dunphy & Griffiths, 2003). This is compliant to the term proposed by Gray, who sees CSR "as a stakeholder –oriented concept that extends beyond the boundaries and is driven by an ethical understanding of the organization's responsibility for the impact of its business activities, thus seeking in return society's acceptance of the legitimacy of the organization"(in Maon, Lindgreen & Swaen, 2009).

The above mentioned levels are a useful tool to understand which level an organization has reached. The last level gives a clear goal to companies aspiring to be more sustainable, and reveals that organizations can always do more. Unlike some organizations claiming that they're doing all they can but still linger in lower levels. So with the efforts we are going to make in a change process we would like this to help us closer to the sustainable organization. To clarify this goal even more, we would like to specify several focal points that are important for a sustainable organization. The sustainable

organization is the organization that is in the sixth level in the sustainable level model. In the next paragraph we will explain these focal points.

2.4. Relevant focal points of the sustainable organization

The physical aspects of the sustainable organization are hard to define because every organization is different. Therefore in imitation of Espinosa & Walker (2011, p. 148) whilst describing the sustainable organization the focus will lie on the causes rather than dealing with symptoms. The causes in this case are the failures of the regular organization that lead to symptoms such as high emissions, waste, employee abuse and other negative impacts on nature and society, rather than focusing on these symptoms. When the causes are properly managed the symptoms will resolve.

There are several aspects and elements of an organization that could use the attention in a change process towards a sustainable organization. These focal points are: the sustainability manager, setting goals, top managers, individual employees, changing the driving force of the organization, cooperation with external stakeholders, and knowledge and expertise. The focal points are loosely based on Maon et al. (2008). These focal points are relevant in the development of the change process as well as the goals for intervention.

2.4.1. The sustainability manager

When a change process is set in motion it is useful to appoint an sustainability manager. The sustainability manager needs to understand pressures, risks and opportunities that environmental issues pose to the organization, and how these may develop over time. Because the sustainability manager works within an organization he is able to understand the nature of the impact the issues might have on the organization, depending on the response strategy that is adopted. The sustainability manager needs to have support from upper levels and should be able to work with directors and managers in order to develop response strategies that are appropriate to the potential impacts, the financial and operational constraints and the strategic direction of the organization. Lastly the sustainability manager should drive, direct or assist the implementation, maintenance and development of these strategies over time (Polgreen, 2005, p. 98). The sustainability manager should be the internal change manager of the change process towards a sustainable organization. The sustainability manager is the gate keeper of all activities towards a sustainable organization.

2.4.2. Setting goals

When a change process towards a sustainable organization is set in motion it is important that goals are being developed. Without goal setting it is difficult to see if the change process has worked. But goal setting is also important after the change process. Continuous goal development will ensure that the organization keeps their high level of CSR. A statement articulating a company's sustainability goals can provide a foundation on which to build a program of initiatives (Business for social responsibility, 2006). The organization's mission, vision, and strategy goals are developed from this statement and should ensure change towards the sustainable organization (Lindgreen et al., 2011). Employees should be able to make goals that have sustainability into its DNA. A change in the organizational structures should ensure that these goals can be put to practice (Espinosa & Walker, 2011, p. 148). Making use of external standards could help set these goals.

2.4.3. Top Managers

Companies with successful sustainability initiatives usually have visionary leadership at the senior level. A sustainability champion can identify business opportunities, while inspiring others in the

organization to adapt sustainability measures (Business for social responsibility, 2006). When developing goals the top management are the main party that should give the support. Without it there will be no successful implementation (Lindgreen et al., 2011).

2.4.4. Individual employees

It is important to change the individual awareness among employees (Espinosa & Walker, 2011, p.148). Involving employees shouldn't start in the middle of the process, but should have a continuous approach. There should be a clear communication towards employees about the CSR mission and vision, possibly supported by a training (Lindgreen et al., 2011). The individual employees should be able to know what the consequences of their actions are, and should be able to communicate about this. Internal communication is an important aspect of building a strong culture for good environmental practice and innovation (Polgreen, 2005, p. 105). Education could play an important role in this because it explains the role of the individual in the organizations' sustainability practices (Business for social responsibility, 2006, p. 35). Collaboration and the notion of being a part of a larger organization and its place in society will aid to employees awareness and consequently the organizations CSR-performance (Lozano, 2008).

2.4.5. Changing the driving force of an organization

The problems we are facing are a direct consequence of the way humanity has conducted over the last 300 years. The problem, according to Espinosa & Walker, lies within an inappropriate mind setting, where natural habitat is exploited in the name of economic growth. Both political and economic systems are driven by short-term gains while disregarding long-term consequences. Therefore the solution to these problems can be found in a driving force change from traditional approaches to socio-economic and institutional development in which organizations are highly complex systems (Espinosa & Walker, 2011, p. 2-3). This changed driving force should be integrated into the core strategic and risk management function of the organization (Polgreen, 2005, p. 103-104). Without a strong driving force in the right direction (towards a sustainable organization) it will be difficult to maintain funds. This will result in loosely coupled systems, as mentioned in the previous chapter.

2.4.6. Cooperation with external stakeholders

The stakeholder is a very important factor in every organization. Freeman describes the organization as 'any individual or group who benefits from or is harmed by, or whose rights are affected by an organization's actions' (Freeman & Werhane, 1999). Maximizing the value created with shareholders is the key aspect of the modern organization (Freeman, Wicks & Parmar, 2004). The organization is in (positive and negative) contact with several stakeholders. It is important for an organization that there is a safe mechanism to talk to these stakeholders. If this is too difficult for an organization they could choose to ask for help with a mediator (Polgreen, 2005, p. 102). Having a dialogue with all possible stakeholders (people/organizations that are affected with the organization), such as suppliers, community, etc. This external dialogue creates new opportunities, solutions and awareness about problems (Lindgreen et al., 2011). Regular external communication with key stakeholders is very important for maintaining the trust of these stakeholders. An organization has to be very clear about what it is trying to achieve with environmental supply chain management, because with a vast number of suppliers it is important to have them on your side (Polgreen, 2005, p.105). The most innovative initiatives often come from experts and conceptual leaders in the field of sustainability. Creating partnerships with private consultants and/or nonprofit organizations expands

a company's breadth of understanding. More businesses are forming partnerships with non-governmental organizations in order to understand emerging sustainability issues, create business opportunities, and in some cases avoid confrontation and negative publicity around environmental and social issues (Business for social responsibility, 2006, p.30).

2.4.7. Knowledge and expertise

It is important to have knowledge and expertise on environmental pressures and social consequences of the organization. This knowledge could be created inside the organization but this could also be done by external experts (Polgreen, 2005, p. 101). Some innovative initiatives could come from other organizations outside the field of sustainability (Business for social responsibility, p.35). The first knowledge that should be created in a change process is the 'zero-assessment'. The current state of the organization gives a view on the sustainable actions already partaken, but also those who need to be partaken. This should be the starting point of the change process, but it is also the starting point of the evaluation (Lindgreen et al., 2011).

Now that we've figured out which focal points are essential when it comes to the sustainable organization we recognize that becoming one is not the easiest task. The initial organization needs to change before becoming a sustainable organization. Therefore a change process could be set in motion. In the next paragraph we will focus more on this change process.

2.5. The change process towards a sustainable organization

Corporations that commit themselves to be more sustainable, wrestle with the question on how to implement CSR (Cramer & Loeber, 2011). To support these organizations to become more socially responsible (or in terms of Benn et al. on a higher level towards a sustainable organization) a change process could be set in motion. The change process towards a sustainable organization can be seen as a natural transition (as they would follow the levels designed by Benn, Dunphy & Griffiths), or could happen intentionally. Aras and Crowther (2009) support the latter approach because they think that a dramatic change is needed if organizations want to be more sustainable. According to Lozano (2012) planning organizational change overcomes resistance to change and therefore helps better integrating CSR practices. Because this is also the most visible way to change an organization this research will focus on the intentional approach or planned change.

The change process should focus on several focal points, which will be mentioned in the next chapter. However there are several views on how a change process should look like. The change process should focus on the fundamental basis on which an organization has been built. It is suggested that a change process can change the way people work, and the reward systems, the information systems and technologies in organizations. The change process could be used to generate new capabilities and will lead to an improvement in operational performance. A change process has the benefits of the development of small wins, capability development, positive cultural changes, efficiency improvements, new organizational structures and the development of change competencies (Benn, Dunphy & Griffiths, 2003). Bielecki (2011) mentions that a new philosophy of an effective organization should be introduced. However these remarks focus more on the results of the change process than on the actual process. To make the change process more visible the organizational change theory of De Caluwé and Vermaak will be used, because they are notable authors on the organizational change process. De Caluwé is also a notable author on simulation

games. In the next chapter this change process will be further explored, but in the next paragraph we will focus on the more problematic aspects of a change process first.

2.6. Focal points of a change process

The change process has several different focal points. This starts at the beginning with the choice of the change process. A pre-packed change process could lead to a mismatch with the organizational type which will diminish in the organizations motivation and results. This is especially clear when it comes to CSR. Because the problem is unclear and unstructured, the solution cannot be simple and clear, but should be created for the specific problem (Dunphy, Griffiths and Benn, 2003).

When the organizational change process has been started the first major problem that occurs is the moving out of alignment of the end goal: CSR. The choice of following the driving force of the organization is not an easy one, and the organization could easily go astray. This effect is enlarged when the external environment is not cooperative. Constant monitoring and evaluation should avoid this problem (Benn, Dunphy & Griffiths, 2003). This problem also occurred in the organizational change project where it resulted in miscommunication between the organizations top manager and the environmental manager which became a problem (Cramer & Loeber, 2011).

The second problem that occurs within an organization is the decline of motivation among managers. This is often the result of the lack of visible success in the organization, some parts of the organization change easier than other parts. Senior managers may withdraw their support and shift priorities. Significant performance improvements and clear contributions to business results should be shown to management (Benn, Dunphy & Griffiths, 2003).

The third problem that occurs within an organization is the motivation of change-fatigued employees. In an organization that tries to change too often, CSR will be seen as the “latest management fad”. This could be prevented by maintaining the motivation and the program consistency and link the program to overall corporate strategies and value statements (Benn, Dunphy & Griffiths, 2003). This is also an explanation to why most pre-packed change processes won’t work, because they don’t incorporate the organizations history.

The problems occurring in a change process lies within three focal points: appropriate assimilation of the change process with the organization, maintaining the driving force and maintaining motivation (of management and employees). Maintaining the driving force and maintaining motivation are both two focal points that need to be seen on the long-term perspective. Though it can be visible in the beginning of a process, it is necessary to keep the driving force and keep management and employees motivated. This ensure the long-term effect of the change process.

2.7. Analytical framework

Based on the acquired knowledge from this chapter there are a lot of changes to be made to the initial conceptual model. Because we cannot say that an organization can become a sustainable organization overnight, there has to be a change process. In the next chapter this change process will be explained more. We also add the seven different focal points of the sustainable organization. The focal points influence the success of the sustainable organization. These seven focal points are: The sustainability manager, Setting goals, Top manager, The individual employees, Changing the driving force of the organization, Cooperation with external stakeholders, and Knowledge and Expertise. But we also add three focal points that are critical for a change process: Appropriate assimilation of the

change process, Maintaining the driving force, and Maintaining motivation (of management and employees). These three focal points influence the success of the change process. With all these additions to the analytical model it looks like the following:

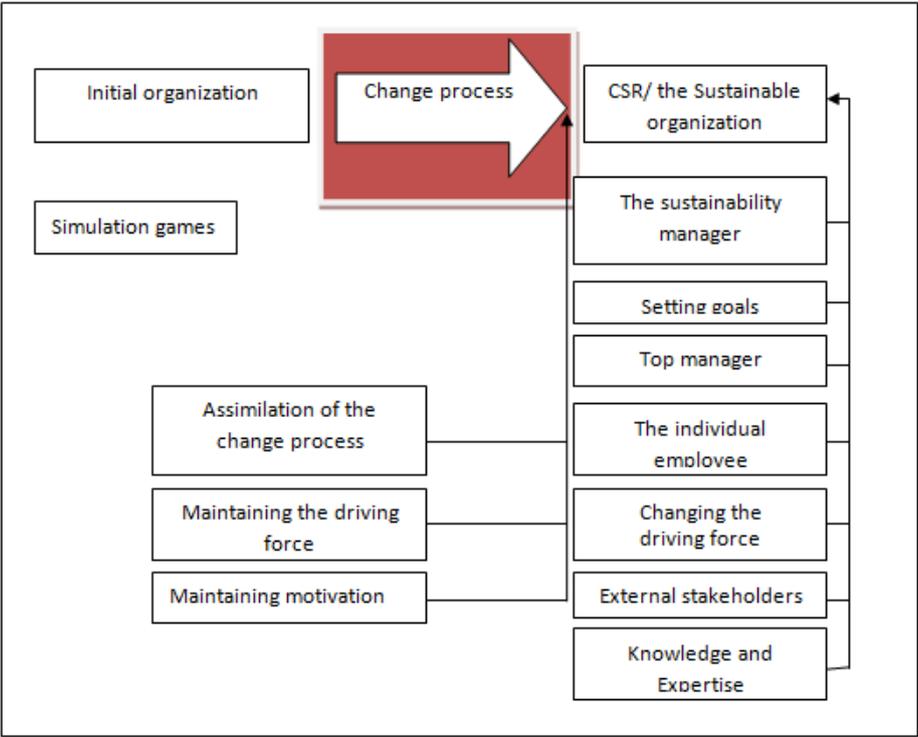


Image 2.6.1. The analytical model 0.1.

With all these additions to the analytical model it seems to be unclear where simulation games could fit into. How and where could they make a change? But before we find that out we would like to know a bit more about the change process. We need to know how a change process should look like and how it works and how we could use it to become a sustainable organization. In the analytical model this part is highlighted in red.

Chapter 3: The change process and changing by learning

In the previous chapter we have shown that a sustainable organization is no easy goal to reach. Therefore several researchers suggest a change process: Maon, Lindgreen & Swaen (2009) & Benn, Dunphy & Griffiths (2003). In the previous chapter we have seen the difficulties and the necessities of the change process. In this chapter we will look at a basic change process and what it entails. This basic change process could be colored with a change thought, which will be explained in this chapter. We will further investigate the different change thoughts and further explore the change thought that is most suitable for the change process towards a sustainable organization.

3.1. The basic change process

Knowing the issues mentioned in chapter 2, it should give an idea that being CSR isn't as easy as writing down that you would like to do it. Nor does it mean that every intervention complies to every organization. There is no single recipe for successful change. A standardized or pre-packed change process may not meet the needs of the particular organization (Benn, Dunphy & Griffiths, 2003). Being CSR requires an organizational change, where strategies are being changed with people who have to be involved. Changing an organization enables a different future than the one that will be created when business as usual will be continued. The initiator will have a certain idea about this future (De Caluwé & Vermaak, 2000, pp. 73-86). In this case the idea of becoming more sustainable has arisen from several motivations mentioned in paragraph 2.2. The motivation is often emotional, because the initiator feels the urgency for change. For example when an environmental policy failed because nobody thought it was more important than other issues at that time. In every change process support is needed from employees. This is created by explaining the problem before a vision is created, so employees feel the sense of urgency as well. Involving people to create this vision empowers the process as well as strengthening the vision. A strong vision also creates motivation (De Caluwé & Vermaak, 2000, pp. 73-86). To guide this process a change agent should be appointed, preferably within the organization (Benn, Dunphy & Griffiths, 2003).

According to De Caluwé & Vermaak a basic organizational change strategy consists of four steps:

- **Diagnosis**
Creating clarity of the problem at hand.
- **Strategy**
Creating a plan for change. How do we get to the preferred situation, or solve the problem?
- **Intervention plan**
What interventions should be performed? Which interventions strengthen each other and should be performed together?
- **(Multiple) Interventions**
Interventions performed according to the intervention plan (De Caluwé & Vermaak, 2000, pp. 73-86).

This is just a basic change process that can be adjusted to the organizations' and change agents' preferences. These preferences adjust the change process and can be done according to five change thoughts that have been developed by De Caluwé & Vermaak to make the change process applicable to different organizations. These change thoughts will be explained in the next paragraph because they will adjust the change process towards a sustainable organization.

3.2. Five change thoughts for changing an organization

An organization chooses to change when there is a difference between the current state of the organization and the preferred state of the organization. According to De Caluwé & Vermaak (2000 and 2006) there are five change thoughts for changing an organization, each one has been given a different color. In this subparagraph these five change thoughts are explained. There are different change thoughts for creating change within an organization. These change thoughts will focus on different aspects of an organization. Choosing a change thought is dependent on the answers to several questions: what does the organization look like? What are the goals? What is the preferred strategy for the change agent? Though the color-coded change thoughts are linked to a type of organization, this does not mean that an organization is just one type, but it helps to explain the differences between change thoughts.

Yellow - A yellow organization is similar to a democratic system. The organization will change when a new coalition is created. Creating a coalition means a power struggle, where the strongest will survive. It is important to bring interests together in a coalition.

Blue - A blue organization is similar to American companies, like McDonald's where everything is written out and perfectly planned. An organization will change when action plans are written and executed. It is important to create a clear goal and a clear roadmap. The change agent should be able to adjust plans if necessary and to keep everything stable, simple and governed.

Red - The red organization is focused on the soft sides of an organization, where motivated employees are the strength of an organization. Creating change means using talents and competencies or changing the management style. Employees should be tempted to change, either by punishment or rewards.

Green - Green organizations are organizations where learning is most important. These organizations are built on the employee's possibility to learn. Organizational change is created when employees (are motivated to) learn the value of change and the competencies to change.

White - A white organization is an organization that believes in empowerment and self adjusting. Creating organizational change is therefore impossible because it should be self supporting process. The only option for controlling change is remove blockages and opening the road for change. Observing and denoting problems, using symbols and rituals and using the energy people have will support possible change. Dynamics, conflicts and complexity are encouraged (De Caluwé & Vermaak, 2000, pp 43-49).

We have chosen that the green organization will be the best option to create a sustainable organization. Learning could be a possible solution for the problems that occur within organizations that want to be more sustainable. The green change thought focuses on organizational learning and changing by learning. First we will give an in-depth look on how the green organizational change looks like, and then we'll shift the focus towards learning and how this could change an organization.

3.3. Change thought for the sustainable organization.

Learning is mentioned by several authors as an important aspect of a CSR organization (Benn, Dunphy & Griffiths, 2003, Polgreen, 2005, Business for social responsibility, 2006, Lindgreen, et al., 2011, London, 2012, Lozano 2008). The change thought that will be chosen in this research is the

green change thought. CSR involves learning over time and the ability to understand the specific context (Maon, Lindgreen & Swaen, 2009). Learning should be an important part in the organization and should be a continuous process. Increased knowledge and understanding lead to changes and behavior and actions. Organizations should incorporate integral thinking of economic, environmental and social aspects, holistic and collaborative thinking, and short- and long-term equilibriums into their processes (Lozano, 2008). Learning also occurs when an organization needs to solve CSR problems (London, 2012). But learning isn't just necessary for solving CSR problems it also affects CSR inside the organization (Stewart & Gapp, 2012). Organizations that survive changes in their surroundings, such as environmental pollution, globalization and alienation, are organizations that help their employees to learn. These organizations are also called learning organization. Learning organizations adjust to and are able to respond to developments (Kessener & Termeer, 2006).

The choice for this change thought does not mean it will not be applicable to other organizations because of the following reasons: change thoughts are not rigid, most organizations can adjust to more than one change thought, therefore it could be useful for other organizations as well. The second reason lies within the fact that most organizations learn in some way not all will be lost if the description above doesn't fit the organization perfectly. The third reason is the fact that there is no perfect pre-packed organizational change process (as will be mentioned below), therefore each process should be adjusted to the organizations preferences and therefore the following organizational type could be used as a basic change model. Lastly no matter what type of organization is involved, CSR is a crucial aspect of the core business (Cramer & Loeber, 2011). Each organization needs to define their own CSR-strategy to suit its purpose and objectives best (Aras & Crowther, 2009, p. 25). Therefore knowledge on how other types of organizations implement CSR is still useful for other types of organizations. In the next paragraph we will discuss the green change thought more.

3.4. The green change thought

Changing and learning are closely linked in the green change thought. The main reasoning behind this is that employees will change if you motivate them to learn. The green change thought focuses on making new views on employees and helping them noticing their own shortcomings. The ability of learning employees is central focus point in this change thought, because according to this change thought employees can be motivated by seeing, experiencing, and learning new things. Employees should be able to create their own learning goals and learning process. A change agent in this change process will focus on creating learning situation and helping employees to learn. The change agent is not a teacher but helps others to learn and grow, and he learns as well (De Caluwé & Vermaak, 2006).

According to the green change thought people will learn when they're put in a learning situation. The learning situation can be a one way street, as it would happen during a presentation. But rather the learning situation involves the employee and makes the employee focus on the own learning goals and gives the employee room for experimentation. This situation helps the employee to acquire a new thinking pattern (De Caluwé & Vermaak, 2006).

The green change thought has limitations as well, because the focus lies on learning experiences rather than actions, it is possible that the desired change isn't created. To ensure that the efforts

made during the change process will not be put aside as the latest fad, De Caluwé and Vermaak (2006) suggest organizational learning. In the next paragraph we will explore what learning in organizations is.

3.5. Learning in organizations

As mentioned in paragraph 3.3 we've explored the necessity of learning in the organization in order to change the change organization, according to paragraph 3.4. According to Phan & Peridis should learning not be forgotten if you want to change an organization strategies, values and assumptions (2000). Learning in the organization could be seen as the act of individuals learning who all work in the same organization. Organizational learning is where the entire organization learns to act differently. Though both types of learning are closely intertwined we'll focus more on individual learning, because simulation games focuses on the individual. The organization in this approach is built up of a collective of individuals. An organization has structures, organizational maps, programs, procedures, and memories built into the fabric of the organization and therefore also in the individuals. These elements of an organization can be seen as an expression of a theory-in-use. The theory-in-use explains the underlying thoughts of organizational activities. An organization has learned when a change in thinking and acting of the individuals yields a change in the design of organizational practices. According to Argyris and Schön learning occurs when an individual experiences a problematic situation. The employee experiences a mismatch between the expected and actual results of action and respond to that mismatch through a process of thought. Further action leads employees to modify their images of organization or their understandings of organizational phenomena and to restructure their activities, with this they change the organizational theory-in-use (Argyris & Schön, 1996, pp. 3-28). To enable learning the employee needs to get challenged and should be able to learn from this experience. How this type of learning works will be explained in the next paragraph that focuses on reflection-on-action. Learning in organizations lies on the basis of the green change thought and has its origins in reflection-on-action (De Caluwé and Vermaak, 2006).

3.6. Reflection-on-action

Reflection and learning occurs when the employee gets challenged. This challenge occurs in an uncertain situation in which the current action patterns are useless (Kessener & Termeer, 2006). By now we've learned that (organizational) learning could lead to change, but it has been unclear how this link between learning and changing actually works. You could say that everybody knows that they have to change and what they have to do, but very little people actually do it. This is because most of our actions we undertake are 'automatic', we do these without realizing why. What we like to be created is what Schön calls 'reflection-in-action'. This means that we reflect on what we do and why we do this. Once we reflect our actions we acknowledge why they need to be changed and how we can change. Reflection-in-action is often created when a new problem occurs and current expectations and actions no longer suffice. The employee knows that former reasons for actions no longer suffice, and is purposely unequipped to solve it immediately. The problem generates new understanding of actions and a change in the situation. The employee creates a new theory and technique that should apply on the new situation. This newly created knowledge could affect other areas as well (Schön, 1983, pp. 50-68). This method of learning is also called double-loop learning. Double-loop learning is contrary to single-loop learning and therefore single-loop learning is

explained first. After this double-loop learning will be explained. Image 3.6.1 gives a view on how both loops fit together.

3.6.1. Single-loop learning

When a problem occurs the solution will be found and executed without changing the current system, this can be seen in image 3.6.1. The employee will be able to solve the problem but is able to do so with his current set of knowledge and skills. The underlying strategies and the value of a theory of action remains unchanged. It has a single feed-back loop, that doesn't change the way the employee functions and therefore doesn't change the organization (Argyris & Schön, 1996, pp. 3-28).

3.6.2. Double-loop learning

Double-loop learning results in a change in the values of theory-in-use, as well as in a change in strategies and assumptions. Double loop refers to two feedback loops that connect the observed effects of action with strategies and values served by strategies (Argyris & Schön, 1996, pp. 3-28). Double-loop learning occurs when a lack of result is corrected by the employee through researching and consequently changing the defining (underlying) strategies and therefore changing the actions of an organization. Double-loop learning is necessary in every organization. It is relevant for complex, non-programmable problems and will ensure the future of an organization. It creates long-term effectiveness and therefore the end result of the organization. It is difficult for an organization to become a double-loop learning organization. When it is taught to individuals in seminars, they are willing but unable to put their theory into practice. To ensure effectiveness it is important to intervene in the high organization levels, because they have the independence and power to change processes. Double-loop learning starts within the individual employee and continues to the organizational level at a later stage. Double loop learning is a solution to change an organization. When employees are conscious of the negative results of their actions they are able to change, when this change occurs with a double-loop it is more effective. This effect most likely occurs when an employee finds a problem to which their normal actions no longer suffice (Argyris, 1996, p. 20-52). Image 3.6.1. gives a schematic view of single-loop and double-loop learning.

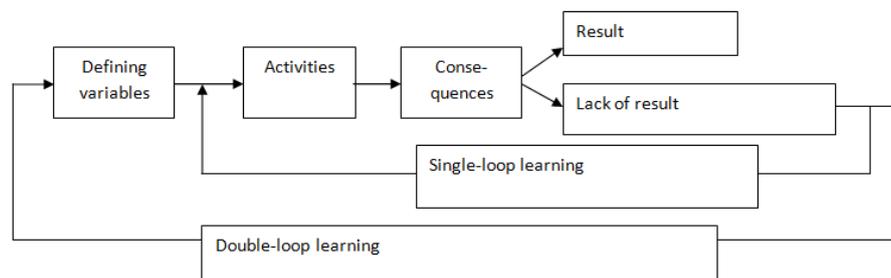


Image 3.6.1. Single and double loop learning
Source: Argyris, 1996, p. 21

3.7. Analytical model

In this chapter we have started with explaining the basic change process. Because of this we add the steps (diagnosis, strategy, intervention plan and interventions) of the change process to the analytical model. After this we explained why green change is used as a guideline throughout the change process towards a sustainable organization. Therefore the change process is colored green in

the analytical model. We've learned that learning is important in this change process and that it could lead to a change. Learning in the organization underlines this as well, it showed that learning in an organization could lead to change. Finally we have looked at how learning actually could lead to the desired change. All three aspects showed that learning only occurs when the employee has to solve a problem on which current actions no longer suffice. That is why in the analytical model three new focal points can be added: Learning, Problem solving, and Creating a realization of lack of knowledge. These three focal points will influence the effectiveness of the change process and are therefore added to the focal points of the change process. Adding these focal points will show the analytical model as follows:

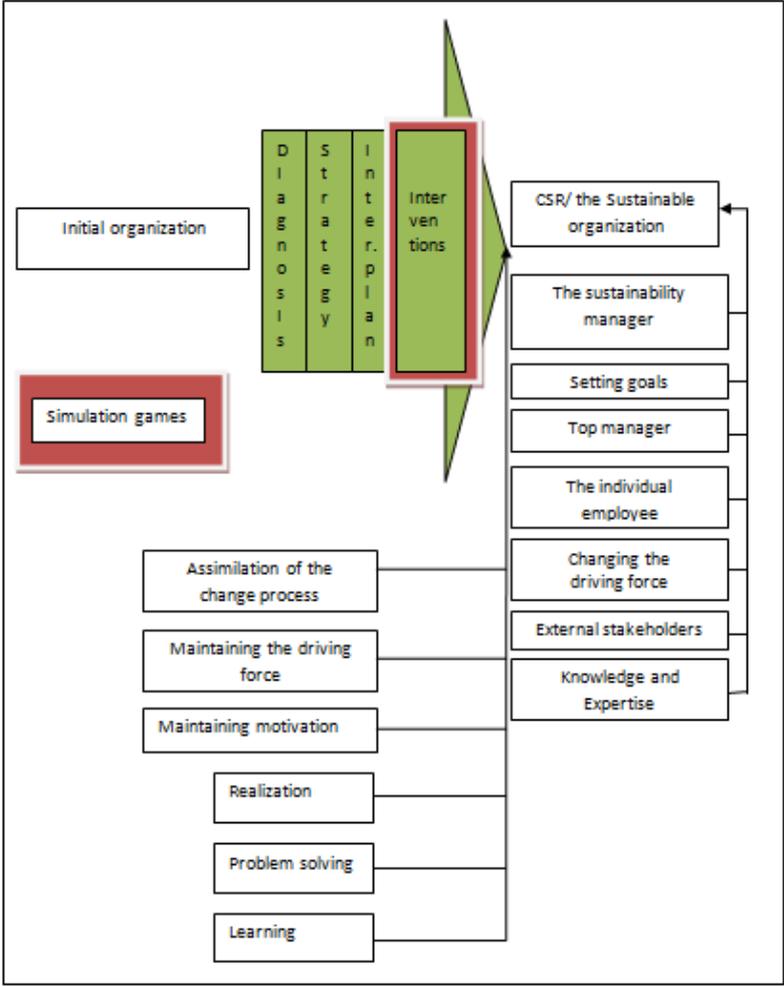


Image 3.7.1: The analytical model 0.2

Now that we know that learning is important for change we could wonder how we can put employees in a learning situation, that entails the three focal points mentioned before (Learning, Problem solving, and Creating a realization of lack of knowledge). There are several intervention tools available for a change process that uses a green change thought. De Caluwé and Vermaak (2006) suggest simulation games for this change thought. A simulation game could give a focus on the setting and communication, and can therefore create such a learning situation. In the next chapter we will focus more on different intervention tools and on simulation games specifically. As we've done in previous chapters this part is also given a special color, in this case red in the analytical model.

Chapter 4: Simulation games

Quite early in this research we've established that an intentional or planned change process is necessary to create a sustainable organization. But the change process can only be effective if the correct intervention tools are used. Without proper interventions the change process is nothing more than a well-thought plan. To bring this plan to implementation and to institutional change the intervention tool is crucial. In this chapter we will look at interventions in general and towards simulation games specifically. The intervention tool can be chosen for the change process towards simulation games because there are some games specifically designed for making an organization more sustainable and because they are a advised tool in change processes with a green change thought.

4.1. Interventions

Interventions are defined by French and Bell (1984 *in* Geurts, Altena & Geluk, 2006, p. 364) as “sets of structural activities in which selected organizational units engage in a task or a sequence of tasks with the goals of organizational improvement and individual development”. What happens during an intervention is dependent on the conditions of the organization and the perceptions of the intervention tool according to the users. The effectiveness of the intervention is dependent on the conditions, the advisor, the client and the intervention itself (Geurts et al., 2006, p. 364 – 365).

According to De Caluwé and Vermaak an intervention is a (or a chain of) planned (change-)activity (or activities) that are focused on (aiding) enlarging the effectiveness of the organization. There are several interventions created to improve learning among organizations. De Caluwé and Vermaak summarized these interventions in the following table:

Individual learning	Learning in pairs	Learning in groups
<ul style="list-style-type: none"> - Learning by doing - Self study - Self assessment - Learning assignment - Product development - Publications - Internships - Sabbatical - Task enlargement - Task enrichment - Task rotation - Function change 	<ul style="list-style-type: none"> - Personal networking - Master / apprentice relationship - Coaching / supervision - Feedback / evaluation interviews - Product development - Publications 	<ul style="list-style-type: none"> - Peer review - Peer - Clinics - Group assessment - Learning assignment - Product development - Publications - Simulation games - Internal training - Work conferences - Knowledge centres

Table 4.1.1. Overview of learning levels
Source: De Caluwé & Vermaak, 2000, p. 246

This table shows most interventions accompanied by the different levels of learning: on an individual level, on a pair level and on a group level. As mentioned before we would like to have organizational learning and create learning among several employees at the same time, therefore we chose the last group of interventions.

An intervention is useless when it directly fixates on the problem, because the intervention will be ignored. An indirect intervention to increase the variety of the problem will have much bigger

impact. The indirect approach makes it easier to take a distance of the situation, release accompanying emotions, and creates a reflection on their own actions and could lead to a behavioral change. The indirect approach is created when the problem is transposed into a different medium, i.e. drawings, simulations or a metaphor (Kessener & Termeer, 2006). This research focuses on the use of simulation games as an intervention tool. This is one of the tools mentioned by De Caluwé and Vermaak (above) and is a useful intervention tool in an organization change process (van Kasteren & Peters, 1998).

4.2. Simulation games

Games are as old as mankind, and since the beginning of science people have tried to develop a definition. One definition developed by the philosopher Huizinga in 1933 names it an: “Awareness of happy recreation outside the demands of ordinary life” (Van Aalsvoort, 2011). In coordination with this definition a game could have the following aspects:

- An unforced action or activity
- Happening within certain temporal and spatial boundaries
- Played with freely chosen but afterwards binding rules
- The activity is singular and has no ulterior motives
- The activity is associated with a feeling of tension and happiness, and the feeling that the activity is different from everyday life (De Caluwé et al., 1996, p.19 & Michael and Chen, 2006, p.19).
- A game is recognized as such when it occurs (Van Aalsvoort, 2011).

According to these aspects there are a lot of games available. In this research we will focus on simulation games. Simulation games are a learning method in which people participate in a structured activity or simulation. The learning goals are given beforehand and woven into the game (De Caluwé and Vermaak, 2000, p. 213 & Michael and Chen, 2009, p. 21). Learning is an important aspect of simulation games, and therefore it could fit well into a change process towards a sustainable organization. The game is developed with a clear design and clear functions with an emphasis on the communicative aspect on gaming. If possible the game is designed with some actors and had a few test runs. In an ideal situation simulation games are well embedded in a change process and it is played with perfect facilitators and has briefings before, during and after the simulation (De Caluwé et al., 1996, p.153).

There are several different simulation games: they can be a computer game, a role-play or a board game (De Caluwé, Hofstede & Peters, 2006, p. 12). Games are suitable for teachers (of all levels), organizations, NGO's and artists (Michael and Chen, 2009, p.26).

De Caluwé et al., developed a few themes that are important when a simulation game should be developed. A simulation game looks like the reality but is not a direct representation. The simulation game is a reflection on reality and uses metaphors to represent reality. Repeating gaming cycles or rounds in a game allows players to experiment and to fully understand the message. The game should be introduced where the game is (partly) explained as well as the benefits of simulation games. The latter ensures full participation from players. By designating roles the players learn different perspectives. Events are very important during the game because they emphasize the important themes of the game, gives opportunities to control the game and increase the pressure on

players. A game should be designed together with the customer and if possible with future players. This creates an extra learning opportunity as well as motivation, cooperation during the game sessions and legitimization of the game (De Caluwé et al., 1996, p. 23).

A simulation game is not:

- A simulation or computer game that represents reality, such as flight simulators.
- Games, especially card or board games, that do not represent a model that is based on reality.
- Structured workshops
- Psycho or socio drama (De Caluwé et al., 1996).

Now that we've established the definition of a simulation game, and what a simulation game is and what it's not, it is also crucial to find out what a simulation game can achieve. The goals of simulation games are explained in the next paragraph.

4.3. Goals of simulation games

A simulation game is created with a certain goal, at the end of the game session the goal needs to met. The goals of simulation games could be an answer for the challenges stated in the previous chapters. Simulation games can have the following goals: Learning, Knowledge creation, Enhancing communication, Skill development, Motivation and Problem solving. These goals will be explained here, and they will also give more insight on simulation games.

4.3.1. Learning

Learning occurs on different levels whilst playing a simulation game. A child learns while playing, therefore it is no surprise that adults still do as well. According to De Caluwé et al. games are an excellent tool for goals including changing and learning, as well as integrating learning into activities. Simulation games are also used to transfer knowledge and insights (De Caluwé et al., 1996, p. 11, p. 34 & p. 75). The first level of learning is created by one way stream of information as it happens through learning or presentations. Professional simulation games were developed sixty years ago to teach students about management. Gaming has been a serious learning method since then (Faria & Wellington, 2004; Guillén-Nieto & Aleson-Carbonell, 2011).

The second level of learning is learning from associates. Simulation games offer an arena where players can share experiences and information (Joldersma, 1998; Tsuchiya, S., 1998). It is also a place where players can understand problem and solution (van Kasteren & Peters, 1998). It helps people learn not by verifying knowledge but through understanding problems and phenomena (Bielecki, 2009).

After this the knowledge and capabilities need to be internalized so that organizational learning takes place (Dunphy, Griffiths and Benn, 2003). Organizational learning can only occur with simulation games when stakeholders and participants have the willingness to learn. Therefore the simulation game should have a solid scientific foundation and must be created with stakeholders. When organizational change is the objective the results must be objectively recognizable (Tsuchiya, 2008)

Lastly the simulation game can also give direct feedback of results to players. This confronts players with their own actions and ideally creates a reflection upon them (De Caluwé et al., 1996; Bielecki, 2009).

The participative element of simulation games are important to create an innovative and learning organization (De Caluwé et al., 1996, p. 208). Simulation game users perceive participative learning as the benefit of simulation games (Faria & Wellington, 2004).

4.3.2. Knowledge creation

In simulation games space is created to create knowledge. The reason and origin of the oldest games were to create war strategies, which resulted in the game of chess. Games were used by military officers to develop strategies and tactics to be prepared for battles (Guillén-Nieto & Aleson-Carbonell, 2011). War strategies are not the only knowledge that can be created, another goal of simulation games could be the creation of future scenarios. A simulation game is a game with rules and assets in which people with different roles are able to create a future step by step. It creates a safe environment to experiment with this future. It gives a clear vision of long term problems because time can work differently. One round in a game can represent a year, though it only took ten minutes. Therefore actions can be visible even though in reality this could take a very long time (De Caluwé et al., 1996). A simulation game is able to create new knowledge free from the restrictions of the existing interpretive frame-works (Tsuchiya, 1998).

4.3.3. Enhancing communication

Simulation games are designed to enhance communication among players. Simulation games support communicating and cooperating between different actors (De Caluwé et al., 1996, p. 34). It is a powerful tool for initiating and stimulating communication between different actors (Joldersma, 1998; van Kasteren & Peters, 1998). In a simulation game a multilogue is created in which people communicate to each other. A multilogue is best explained as a conversation between multiple persons, it is derived in the same manner as the monologue (which is a conversation of one person) and the dialogue (which is a conversation between two persons). This multilogue can be used to find solutions or learn in games (Duke, 1974). Because a game can introduce a new language to its players it diminishes former language barriers, and could be adjusted to more complex problems. This game specific language is supported with gesture, expression, and metaphors (Joldersma, 1998). The game language helps organizations to develop a shared image of reality (Duke, 1998).

The simulation game also offers a place where players can learn experience on team collaboration in difficult conditions. The group discussion that will be created will have a bigger impact on players than if they listen to a monologue or presentation (Bielecki, 2009).

According to Mayer games are the only instrument that could make all actors and/or stakeholders an intrinsic part of a policy creation (Mayer, 2008). Simulation games offer a dialogue that allows players to learn from each other (van Kasteren & Peters, 1998). Duke calls the dialogue between players a multilogue because there are more than two people communicating (Duke, 1974).

4.3.4. Skill development

Because simulation games offer a space for learning skills can easily be developed. Developing skills and training them could be done with simulation games (De Caluwé et al., 1996, p. 34; van Kasteren & Peters, 1998). For example management skills can be practiced easily even though a player never had this function before. Because of the experiential setting players learn to take leadership and feel the support of the group (Bielecki, 2009). Simulation games also improve creativity and entrepreneurial spirit. The player learns connection and rules and will learn to change the outcome of the game (De Caluwé et al., 1996, p.19).

4.3.5. Motivation

Creating motivation is another that De Caluwé et al. mentions (De Caluwé et al., 1996, p.34). The use of games in the work place is a good way to keep employees motivated, and will contribute to positive work experiences (Huang et al., 2011).

4.3.6. Problem Solving

A simulation game can be used to give an organization a holistic understanding of a complex problem (Duke, 1998; De Caluwé et al., 1996). The direct experience that is given through a simulation game gives players insight into different events. They also understand the different interests and the consequences of these interests (De Caluwé et al., 1996). But it can also help players formulate the problem as well as finding a solution (van Kasteren & Peters, 1998).

Game players are able to identify problems and are able to carry out a rational analysis (Bielecki, 2009). Frost said: "The best way to solve a problem is to go through it", problem solving is a way to learn, also called learning by doing. People have to experience, reflect, create a concept, propose action, and take action (De Caluwé and Vermaak, 2002, p.213, p.246). However this is not always possible, because the problem is not always visible at this moment. Simulation games are able to simulate the problem to create a view on solving the problem among its players. With simulation games group learning can be accelerated. What happens in the office can take a year but could happen in minutes during a simulation game (De Caluwé and Vermaak, 2002, p.213). A simulation game takes players away from reality and creates a new one where they can make wrong decisions and learn from them (Rosenørn & Kofoed, 1998).

Though a simulation game could achieve all these goals, it would be quite difficult to find a game that would actually achieve this. Because there are so many games available each game will focus on a different aspect than the other one. In the next chapter we will look at how these goals could help the challenges mentioned in previous chapter, but first we will look at the analytical model.

4.4. Analytical model

The analytical model makes another change because of the results of this chapter. First we will connect simulation games to interventions because it is an intervention tool. Secondly we can state that simulation games influences the goals stated above (Learning, Knowledge creation, Enhancing communication, Skill development, Motivation and Problem solving). When this information is added the analytical model will look as this:

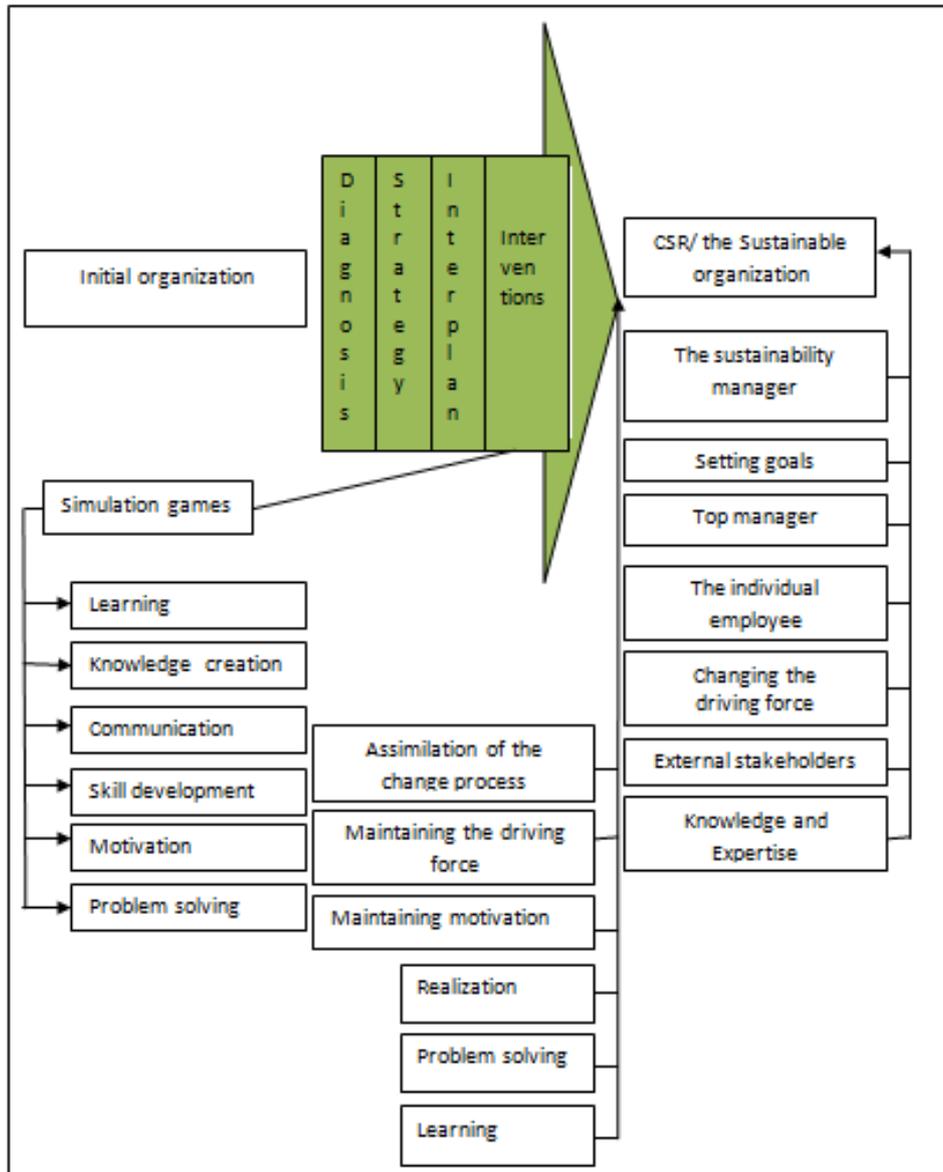


Image 4.4.1. The analytical model 0.3

As shown in image 4.4. is the model complete now. Each dimension of the analytical model has been explained. By now we've established quite a list of focal points of sustainable organization and the change process towards the sustainable organization and a list of goals of Simulation games but it still doesn't come close to a proper theory. For a theory we need to find out how the goals of simulation games could associate to the focal points of CSR and the Change process. We will look at these connections more closely in the next chapter.

Chapter 5: Simulation games for CSR

In the previous chapter we've researched a broad spectrum of the change process towards the sustainable organization. We started with defining the focal points of the sustainable organization. These focal points are necessary to create a proper sustainable organization. When an intervention is used as part of a change process it needs to focus on these focal points because they need to be the end result of the change process. This change process is not an ordinary change process, but has special specifications to ensure the end result: the sustainable organization. We've chosen learning as a viable change method for organizations, which resulted in 6 focal points of the change process. In chapter four we seen what the chosen intervention tool, simulation games, is capable of. We found six goals which simulation games can meet. Because the analytical model is finished in terms of the research overview, we will not be using it anymore. However the information that we've found in this research is still important. The focal points and goals that have been shown in image 4.4. are important in this research. To create a better overview of all the focal points we've put them together in table 5.1.. Though they cannot be compared, it will give an overview.

Sustainable organization	Change process	Simulation games
The sustainability manager	Appropriate assimilation of the change process	Learning
Setting goals	Maintaining the driving force	Knowledge creation
Top manager	Maintaining motivation (of management and employees)	Enhancing communication
The individual employees	Learning	Skill development
Changing the driving force of the organization	Problem solving	Motivation
Cooperation with external stakeholders	Creating a realization of lack of knowledge	Problem solving
Knowledge and Expertise		

Table 5.1: Focal points of the sustainable organization and the change process, and goals of simulation games.

To know how the simulation game could work for the aspect of the change process and the sustainable organization, we like to connect the goals of the simulation game to the focal points of the change process and the sustainable organization. We will do this by looking at each goal of the simulation game separately and trying to find out if these are connectable to any focal points of the sustainable organization and the change process. In the next six paragraphs we will look at each of the six goals of the simulation games. We will conclude this chapter with a diagram with an overview of the connections between the goals.

5.1. Learning

Learning turned out to be a central theme in this research. The learning organization could be a basis for the sustainable organization, and learning could be the leading guide to change. In this case we see learning as a pure cognitive approach, which could be seen as the type of learning is done school. Though there are different types of learning this goal of a simulation game focuses solely on obtaining knowledge, because other focal points of learning will be divided under the other goals.

If we try to connect this goal to the sustainable organization we see that it is mostly affects the knowledge and expertise aspect. Other focal points that could be influenced by this goal is the

individual employer, the top manager and the sustainability manager. These groups of people will be the ones that have to learn about sustainability, CSR and changing their actions. However there are some focal points that are not directly helped through learning such as setting goals. Setting goals could be helped with learning but this is more a by-product of learning. By learning employees could learn about how other organizations are setting goals or maintaining a sustainable organization. However this does not mean that they are able to set the right goals in the right way for their organization. To be able to set goals it takes knowledge creation, which will be explained in the next paragraph. This argument is also valid for changing the driving force. Changing and maintaining a different driving force entails more than knowing what to do, it takes careful planning and a change in the employees' mentality towards the sustainable organization. Cooperation with stakeholders is also not possible with learning, because this is a cooperative aspect and not a cognitive aspect.

When we connect learning to the change process we can clearly link this to the goal: Learning. But this isn't the only aspect that will be influenced by the simulation game. When the player learns new information it will also be empowered with new ideas to help them solve problems. The second aspect of learning new information is the realization that the old information is not complete or sufficient, therefore it also influences the realization of the lack of knowledge. However it is difficult to connect this goal to the goals of the change process. The change process demands that it has an appropriate assimilation of the change process, however this cannot be done through learning. Because this requires an adjustment on a higher level. Maintaining the driving force and motivation is also difficult to reach solely by obtaining knowledge.

In table 5.1.1. we can see that **Learning** will influence the following goals of the sustainable organization and the change process, these are colored red.

Sustainable organization	Change process
The sustainability manager	Appropriate assimilation of the change process
Setting goals	Maintaining the driving force
Top manager	Maintaining motivation (of management and employees)
The individual employees	Learning
Changing the driving force of the organization	Problem solving
Cooperation with external stakeholders	Creating a realization of lack of knowledge
Knowledge and Expertise	

Table 5.1.1. The connections of learning

5.2. Knowledge creation

The creation of knowledge is not the same as learning because it focuses on creating new knowledge. This new knowledge could replace old knowledge and contributes to the solving of current lacks of knowledge.

When we look at which goals of the sustainable organization will be aided with the creation of new knowledge we immediately connect it to knowledge and expertise. Other focal points that contribute less are the sustainability manager, the top manager, and the individual employee because as mentioned with learning, they are the ones that have to create the new knowledge. With new

knowledge setting goals and the driving force will also be influenced because they are necessary to know which targets are necessary to attack. In the previous paragraph it was difficult to connect learning to cooperation with stakeholder, this is the same for knowledge creation. Cooperation with stakeholders will not improve when there is a new knowledge.

The change process will be influenced by new knowledge on the same goals as learning. New knowledge is also a way of solving problems, and it contributes to the realization of lack of knowledge. However knowledge creation does not involve assimilation of the change process. Nor does it help maintain the driving force or the motivation of employees.

In table 5.2.1. we can see that **Knowledge creation** will influence the following goals of the sustainable organization and the change process, these are colored orange.

Sustainable organization	Change process
The sustainability manager	Appropriate assimilation of the change process
Setting goals	Maintaining the driving force
Top manager	Maintaining motivation (of management and employees)
The individual employees	Learning
Changing the driving force of the organization	Problem solving
Cooperation with external stakeholders	Creating a realization of lack of knowledge
Knowledge and Expertise	

Table 5.2.1. The connections of knowledge creation

5.3. Enhancing communication

Whilst playing a game of any sort the player is forced to be in conversation with the other players. But, for example in the game Poker, it is not always smart to share everything with the other players. In the game players talk because they would like to win the game. In simulation game there are also a lot of conversations and a multilogue and even a special language can be created.

The sustainable organization benefits of a better communication within the organization. The sustainability manager, top manager and individual employees will experience this communication first hand and are therefore benefited. But communication doesn't stay within the organization and will influence the cooperation with external stakeholders. Communication also influences the exchange of knowledge and expertise between people. Changing the driving force of the organization will be easier if everyone has been communicated about it properly. This argument can also be applied to setting goals. When goals have been set together, everyone will understand why and how these goals need to be met. However to be able to set goals together the communication needs to be enhanced.

The change process benefits of a better communication because it will help assimilating the change process with the organization. It also helps maintaining the driving force and the motivation because employees can be informed constantly. Learning and problem solving will also be enhanced because of the exchange of knowledge that has been made possible in a multilogue. It will also help to create

a realization of lack of knowledge because in communication with each other the employee will realize that the other person knows something they do not.

In table 5.3.1. we can see that **Enhancing communication** will influence the following goals of the sustainable organization and the change process, these are colored yellow.

Sustainable organization	Change process
The sustainability manager	Appropriate assimilation of the change process
Setting goals	Maintaining the driving force
Top manager	Maintaining motivation (of management and employees)
The individual employees	Learning
Changing the driving force of the organization	Problem solving
Cooperation with external stakeholders	Creating a realization of lack of knowledge
Knowledge and Expertise	

Table 5.3.1. The connections of enhancing communication

5.4. Skill development

Without the development of skills we wouldn't even be cavemen. Without skills such as starting a fire and creating the wheel we would never have been able to be the homo sapiens we are today. If an organization wants to be better and wants to evolve skill development is necessary.

As mentioned above skill development is necessary for an organization and therefore for the sustainable organization as well. Skills will be developed to enhance the performance of the sustainability manager, the top manager and the individual employees. The driving force will change easier when employees have the right skills that they need to have to change. Goals will also be met easier when they have the right skills. Expertise will also be benefitted with new skills. Though new skills could help cooperating with external stakeholders, but this is not a direct result of the development of skills.

Skill development is also necessary in the change process. The reasons mentioned above for the benefits of skill development when changing the driving force are the same for maintaining the driving force. New skills will aid the motivation because the employee will feel empowered and therefore motivated. With the right skills the employee will learn easier, and therefore learning could be made possible through skill development. Problem solving will also be easier if the employee has the right skills. It is impossible to assimilate the change process with the help of new skills, nor will it give the employee a realization of lack of knowledge.

In table 5.4.1. we can see that **Skill development** will influence the following goals of the sustainable organization and the change process, these are colored green.

Sustainable organization	Change process
The sustainability manager	Appropriate assimilation of the change process
Setting goals	Maintaining the driving force
Top manager	Maintaining motivation (of management and employees)
The individual employees	Learning
Changing the driving force of the organization	Problem solving
Cooperation with external stakeholders	Creating a realization of lack of knowledge
Knowledge and Expertise	

Table 5.4.1. The connections of skill development

5.5. Motivation

Motivation is often the key in an organizational change process. Without motivated employees it is difficult to create a change in an organization. But motivation could also be the reason why the organization wants to change, which is often the case with the sustainable organization.

Motivation is therefore quite important in the sustainable organization. Motivation is able to get and to keep the sustainability manager, the top manager, the individual employee and the external stakeholder working for the right cause: the sustainable organization. When the motivation for a certain symptom of the organization is visible (such as waste management or a paperless office) it will aid goal setting. And as mentioned above it will also influence the driving force of the organization. Though motivation might help employees to learn and develop their expertise it is not a direct result of it.

Maintaining the motivation of management and employees will also contribute to the change process as well. Motivation also helps maintaining the driving force. However it does not help assimilating the change process towards a sustainable organization. It also doesn't contribute to changing by learning. The employee will not learn or solve problems purely on motivation, however it can be of slight influence. Motivation does not create a realization of lack of knowledge.

In table 5.5.1. we can see that **Motivation** will influence the following goals of the sustainable organization and the change process, these are colored blue.

Sustainable organization	Change process
The sustainability manager	Appropriate assimilation of the change process
Setting goals	Maintaining the driving force
Top manager	Maintaining motivation (of management and employees)
The individual employees	Learning
Changing the driving force of the organization	Problem solving
Cooperation with external stakeholders	Creating a realization of lack of knowledge
Knowledge and Expertise	

Table 5.5.1. The connections of motivation

5.6. Problem solving

Solving the problem that occurred in the game will empower the player in solving other problems in real life. This is the same for regular games such as Ludo (Mens erger je niet) that helps the player cope with the problems that have been created by other players.

The sustainability manager, the top manager and the individual employee is aided with problem solving, because the sustainable organization will be a difficult task to manage. The empowerment created by problem solving could therefore contribute to this goal. Problems solving also creates knowledge and expertise. Problem solving does not influence setting goals, though it could be a by-product of the final result. The driving force cannot be changed through problem solving, but again the game could have a by-product of realization that changing the driving force is necessary. Cooperation with external stakeholders is not made possible through problem solving, but it is possible that this is required to win the game.

Problem solving is also an important goal of the change process. But with solving problems the employee is also learning. When a problem is difficult to solve the employee will acknowledge what his or her lack of knowledge is. When the employee and management learns how to solve problems he or she will also feel empowered which helps maintaining the motivation and the driving force. However problem solving does not help assimilating the change process.

In table 5.6.1. we can see that **Problem solving** will influence the following goals of the sustainable organization and the change process, these are colored purple.

Sustainable organization	Change process
The sustainability manager	Appropriate assimilation of the change process
Setting goals	Maintaining the driving force
Top manager	Maintaining motivation (of management and employees)
The individual employees	Learning
Changing the driving force of the organization	Problem solving
Cooperation with external stakeholders	Creating a realization of lack of knowledge
Knowledge and Expertise	

Table 5.6.1. The connections of problem solving

5.7. Conclusion

We have looked at each goal of the simulation games individually and we've seen they will influence every goal that is necessary to create a sustainable organization and the change process that is necessary. In image 5.7.1. we've combined the knowledge from the previous paragraphs and it will show if every aspect will have an effect on the goals from the sustainable organization and the change process. The first row contains the goals of the sustainable organization, the second row shows the goals of simulation games and the third row contains the goals of the change process.

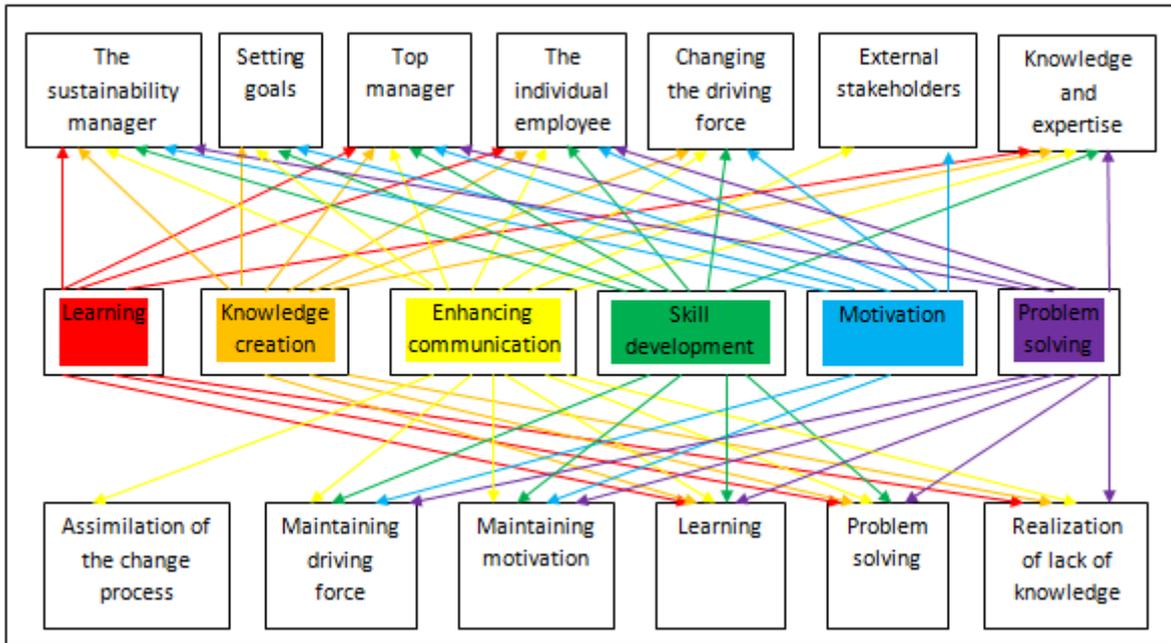


Image 5.7.1: Overview of connections between the focal points of the sustainable organization and the change process, and the goals of simulation games.

The overview gives a colorful image of the connections between the goals. We can clearly see that each goal of the simulation game influences quite a lot of focal points of the sustainable organization and the change process. Most connections are made with the people that work in the sustainable organization such as the sustainability manager, the top manager and the individual employee. This can be explained because most of them can be seen as the player in a simulation game and therefore benefits the most of the simulation game. Learning and associated focal points are also met with a simulation game. This emphasizes the popular use of simulation games in change processes with a green change thought. Stakeholders are not influenced much by simulation games, but this could change when the game has been created to incorporate stakeholders. The assimilation of the change process when the organization only has one connection with the organization, but this could also be incorporated into the game design.

According to image 5.7. and the considerations in this chapter it would seem that the goals of the simulation game can be matched with many elements of the change process and the sustainable organization. The simulation game will enhance the change process towards a sustainable organization. But because the above mentioned goals of simulation games are completely based on theories from different authors it is difficult to say if the effectiveness of games also proves itself in reality. Theoretically a simulation game could be made with the above mentioned goals, but we would like to know if the practice of simulation games demonstrates the effectiveness of simulation games. In the next chapter we will look at the practice of simulation games and actual simulation games that have been designed to enhance a change process towards a sustainable organization, to see whether the above made statements are also valid in practice.

Chapter 6: Case studies

In the previous chapter we've established that theoretically simulation games should be able to contribute to a change process towards a sustainable organization. Though some focal points will contribute better than others it seemed like a valuable intervention tool. In this chapter we'll look at four actual simulation games that are available in the Netherlands for organizations at this moment. We have found five simulation games, but about one simulation game there was insufficient information available, and without help of interviewees it would be difficult to describe the game. Therefore this game has not been added as a case study. For the other simulation games interviews were held with the game distributor or facilitator (the person who guides the game while playing), and if possible interviews were held with players. The contact information about these games can be found in Annex 1. Each case study will start with the organization that facilitates the game. A facilitator is the leader of the game. After this there'll be some basic information about the game based on an inventory scheme developed by Duke (1974), albeit with fewer questions because some were not deemed necessary for this research and were mostly buying-information, such as kit availability etc. The focal points of the game that remain are the following:

<i>Aspect</i>	<i>Description</i>
Basic information	
Title	Formal and informal title
Description of subject matter	Game message
Purpose	Communication purpose
Kit availability	
Game materials	What is necessary to play the game? What is not included in the kit, but necessary
Participant information	
Which audience is intended?	Intended age group?
Prior knowledge	What should be known before playing the game?
Number	The ideal amount and range of players.
Player involvement	
Player organization: team, coalition, or individual	How are players organized and communicating (preferred in diagram)
Emotional/Educational	What is the goal in the game: creating bonds between people (emotional) or creating/obtaining (cognitive) knowledge (educational)
Active/Passive	The degree of inter- and intra-team interaction and the amount of thoughtful contemplation vs. physical activity
Time considerations	
Duration of play	Actual time playing the game: Introduction; initial inertia, game play and critique.
Content or subject matter	
Content and subject	What is the subject (creating an analytical map)
Dynamics of play	
Playability	Abstraction of reality and the complexity of the game. Is it easy to play?
Flexibility	How rigid is the game, can it be used for different circumstances (frame game)? Can the game be changed during the game?

Table 6.1. Basic information on games
Source: Duke, 1974

Following the identification of the game we'll continue with a description of the game and an overview of experiences of the game, both are based on interview results of facilitators and game players, and other available materials, such as leaflets and websites. In one case study (nr. 4) there was an observation made during the game, which made the description and analysis of this game easier and better. This is the only observation made, because the other games were not played in the time this research has been done, or when they were done it was inappropriate to make an observation due to trade secrets. After the identification the game will have an analysis according to the available information. We will look if the different focal points and goals that are explained in the previous chapters, are available or not available in the games. The results of this analysis will be compared to image 5.8. . The case study will end with a short conclusion and recommendation. As mentioned in chapter 1 these games don't have a proper evaluation yet, and these case studies are not a proper evaluation but will give some insight to this. This chapter will end with a conclusion that will try to summarize the knowledge created by simulation games that have been explained in the case studies.

6.1. Case Study 1: “Business Model Canvas +: Play it forward”

Business Model Canvas +: Play it forward is the first game that will be explained and is guided by BECO.

6.1.1. Overview of the game

<i>Aspect</i>	<i>Description</i>
Basic information	
Title	Business Model Canvas +: Play it forward
Description of subject matter	The game tries to make the player conscious of the environmental impacts of the organization, therefore knowing where the possibilities and threats are. These possibilities will be further developed to create an innovative organization. The goal of the game is to create a new or renewed business concept, that contains sustainable aspects.
Purpose	Giving insight on and rethinking of your own business or fictional business including the environmental impacts. It creates a business concept, in which the organization is described.
Kit availability	
Game materials	Board, see image 6.1.2., post-its and (casino) coins.
Participant information	
Which audience is intended?	The game is focused on management of the organization or others (such as employees and stakeholders) if requested. The organization should be developing and selling products.
Prior knowledge	The player should have enough insight in the entire organization.
Number	There are no limits to amount of players because multiple teams can be created.
Player involvement	
Player organization: team, coalition, or individual	Players are divided in teams of 4 – 8 players that work on the same level, though they sometimes start on a different part of the board.
Emotional/Educational	Game is of an educational nature, the game focuses on applying current knowledge.
Active/Passive	Lots of inter-team interaction, no interaction between teams. Mostly based on thoughtful contemplation.

Time considerations	
Duration of play	3 hours.
Content or subject matter	
Content and subject	The players are challenged to create a (fictional) business using the available board. On this board several aspects of the business are available, such as assets, goods, negative impacts on economy/society/environment and positive effects on economy/society/environment. The players are challenged to set down these aspects for their own (fictional) business, and to create new ideas to make the business better. The players are challenged to be to-the-point because they need to write this on post-its.
Dynamics of play	
Playability	The game is mostly based on reality but can be played as part of a fictional game.
Flexibility	The game is flexible because events can be added throughout the game if necessary.

Table 6.1.1. Basic information on: Business Model Canvas +: Play it forward
(Sources: Beco, 2012, Personal communication: Rietveld, 2012 and van der Meulen, 2012)

6.1.2. Game description

The game finds its' origins in the work of Osterwalder. He built a model with which an organization can be analysed. When we look at picture 6.1.2. we can see that the analysis according to Osterwalder is every aspect except for the bottom two. These two aspects, societal costs and societal benefits, have been added by the game developer as well as the questions that have been printed on the game board (Beco, 2012). Because these aspects have been added, the sustainability of a business concept is bigger, because these questions would not have been asked without this board. Beco (Belgium) researched 40 organizations and developed the game by adding aspects to the model of Osterwalder. It is designed to develop innovation within small and medium-sized organizations. The game helps players to create a business model that includes sustainability. According to the demands of the requesting organization it can help players to create plans from ideas, it helps in strategy planning, goal development and creating a future scenario. The game is used as a part of other change processes, but can also be played without it. The game is played with a business case from the actual organization or a fictional one (Rietveld, personal communication, 2012).

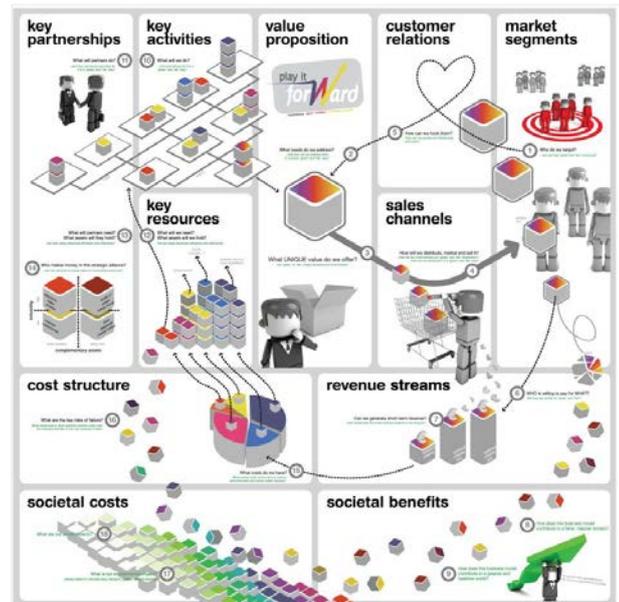


Image 6.1.2. Board used in Business Model Canvas+

The game starts with a briefing and employees showing their ideas on post-its on the board. With these ideas a new business model is created. The game walks by the different aspects and with each aspect the game asks the players questions such as: How will this influence the organization? What are we going to do? With each aspect the business concept gets clearer. Because of step-by-step approach loose ends are removed (van der Meulen, personal communication, 2012). The game uses

post-it notes to put the ideas on the board, as can be seen in image 6.1.3..This model is tested with the future cards, that created events such as cheap available solar panels. These future cards create an out-of-the-box thinking process. These ideas are defended in the final round, where the best ideas earn a 'starting capital' which could be given for economic or sustainability aspects. The game is won by the team of players that has the best, green and fair idea, according to the other players. In the debriefing the players will look back on the game session and discuss how their ideas can become concrete plans (Beco, 2012).

6.1.3. Experiences

According to the facilitator Eelco Rietveld: "if it is fun to do, people will continue to working with it.



Image 6.1.3. Playing the game

The game sessions that have been played are called a fun afternoon. The players learn new things, especially when different departments are represented. Players are quite involved in the game and show a lot of ideas. The players learn a lot of new things but is also fun to do. In one example the game created 10 new innovative ideas that could be used in the organization. The ideas created in the game are commonly used in practice, and

if this has not been done it is mostly due to budgetary issues." However the facilitator always notices changes in mind setting, communication among team members and motivation. Players leave the game with new ideas and motivation. Rietveld is satisfied with the results of the game (Rietveld, personal communication, 2012).

The player that has been interviewed for this case study also mentions clarity and quick speeds as positive aspects of the game. He had a vague sustainable idea that he wanted to create into a business concept with two partners. With the help of the game, they were able to create a viable and solid business concept. He saw immediately which knowledge he needed to finish the game. The player had a nice, relaxing afternoon in which he saw his idea become a business concept that was more sustainable then before he played the game (Van der Meulen, personal communication, 2012).

6.1.4. Analysis

Each aspect of the sustainable organization and the change process, as well as each goal of simulation games will be discussed here. It should make clear whether these focal points are or are not represented in this game.

Sustainable organization:

- The sustainability manager: The sustainability manager plays no specific role in this game. It rather looks on sustainability and creating a sustainable business case where the sustainability manager is not necessary.
- Setting goals: By developing the strategy the game can make clear what the goals of the organization should be. However the exact steps that need to be taken are unclear at the end of this game.
- Top manager: It gives managers a good view of the organization and how it gives an impact on society. It helps managers to rethink their business strategy and creating a more sustainable one for the future.

- The individual employees: When the individual employee is playing the game he will find it difficult because he doesn't have enough insight in the entire organization. However it is possible that he could have an insight that others in the organization doesn't have.
- Changing the driving force of the organization: The game helps creating a new strategy for the organization and therefore aids to the change of the driving force.
- Cooperation with external stakeholders: The external stakeholder can be invited to join this game, because they can shed an extra light on this subject. However the external stakeholder is not necessary in this game. It is difficult to say whether his addition will be enough to create the sense of cooperating with external stakeholders is useful.
- Knowledge and expertise: The game helps creating new ideas and knowledge for the organization.

Change process:

- Appropriate assimilation of the change process: The game is not able to assimilate to different change processes.
- Maintaining the driving force: The game does not focus on maintaining the driving force, but it is focused on creating one.
- Maintaining motivation (of management and employees): Maintaining motivation is not a focus point of this game.
- Learning: Learning is not available in the cognitive sense, the player does not learn anything new but rather is able to combine his knowledge with other players.
- Problem solving: The game has been designed to recognize current problems in the business model and how these can be solved. The future cards also give an extra set of problems that need to be solved.
- Creating a realization of lack of knowledge: As mentioned by one of the players a realization of lack of knowledge can be created.

Simulation games:

- Learning: As mentioned above, the player does not learn in the cognitive sense.
- Knowledge creation: Ideas and solutions for the current business model are created.
- Enhancing communication: Communication is not more enhanced than it would be during a normal meeting. However one player mentioned that together with different partners he was able to create a unified language which helped them later.
- Skill development: The game does not aid skill development of any kind.
- Motivation: Because the players' own ideas are pitched, the motivation for these ideas is bigger than if they weren't.
- Problem Solving: As mentioned above several problems need to be solved throughout the game.

The focal points that are represented in this game are colored **Grey** in table 6.1.4.

Sustainable organization	Change process	Simulation games
The sustainability manager	Appropriate assimilation of the change process	Learning

Setting goals	Maintaining the driving force	Knowledge creation
Top manager	Maintaining motivation (of management and employees)	Enhancing communication
The individual employees	Learning	Skill development
Changing the driving force of the organization	Problem solving	Motivation
Cooperation with external stakeholders	Creating a realization of lack of knowledge	Problem solving
Knowledge and Expertise		

Table 6.1.4. Focal points and goals represented in the game: Business Model Canvas +: Play it forward

6.1.5. Conclusion

Business Model Canvas + is a game that tries to enable the player to create and rethink the current business model while recognizing the societal and environmental costs and benefits. It gives a clear view of the description of People, planet and profit. For an organization that has had no plans about CSR this could be a good starting point. Creating a new business concept in which CSR has been incorporated helps defining strategy and goal making. It helps the player becoming aware of the future and what needs to be done to get to this future. The game also pays attention to the necessity of cooperating with different partners to obtain and set the necessary goals. Learning is done here in creating a different mindset for the player. The problems introduced by the future cards creates an obstacle for which the player needs to find a solution. Therefore this game focuses on problem solving, this will be done with the new knowledge created. Van der Meulen recommends that the game is played with people who are interested in creating a business, such as young entrepreneurs. To them it would be more useful than a normal seminar with presentations (Van der Meulen, personal communication, 2012). I agree with Van der Meulen, it is a great tool for organizations that want to rethink or create their business concept. In image 6.1.5. the connections that have been made in chapter 5 are connected to the ones made in this chapter. The focal points that are represented in this game are colored grey. The arrows that are grey also represent the connections that have been confirmed in this business case.

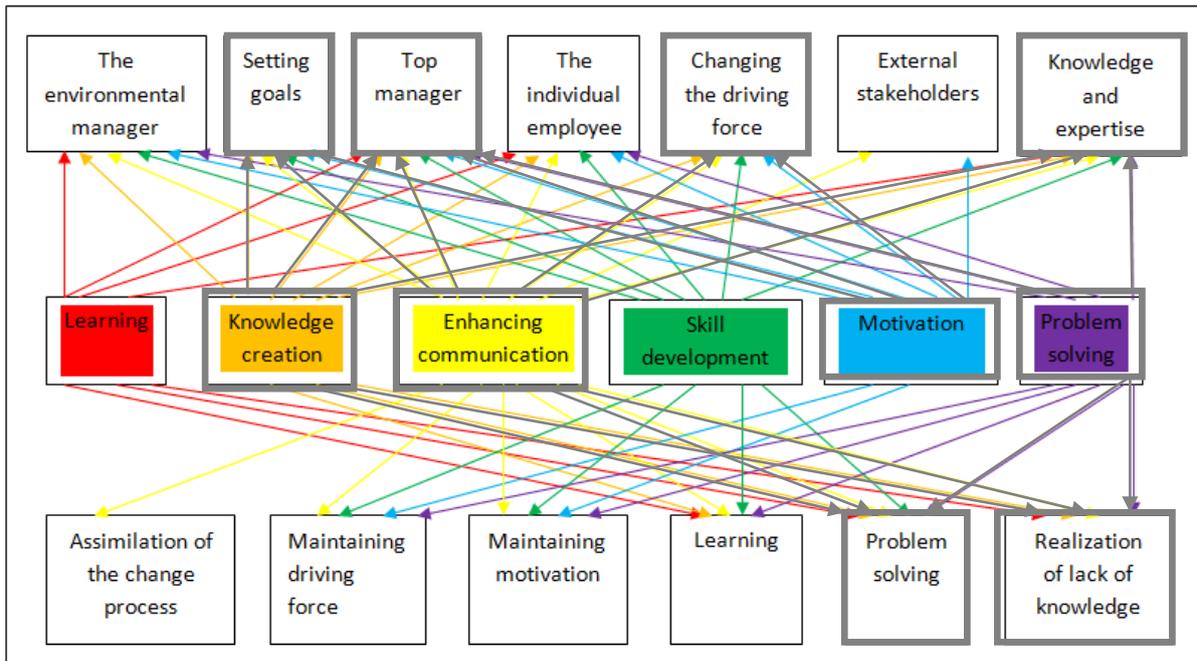


Image 6.1.5: Overview of connections as been seen in the game: Business model canvas +: Play it forward

As can be seen in image 6.1.5. the connections between the goals of a simulation game and the focal points of sustainable organization are quite similar to the original image 5.8.. But the connections between the goals of a simulation game and the focal points of a change process are not well represented. This can be explained because the game does not represent many focal points of the change process towards a sustainable organization. Because of this image we could say that Business Model Canvas +: Play it forward would be well suited for creating a sustainable organization, but some changes need to be made if it wants to fit in a change process towards it. It is interesting to know if the game would be more effective if it were to fit in a change process.

6.2. Case Study 2: “Skytech” and “Cruiser”

Skytech and Cruiser are two different games but with a lot of similarities, Cruiser could be seen as a translated version (in Dutch) of Skytech. Both games are guided by CSR academy.

6.2.1. Overview of the game

Aspect	Description
Basic information	
Title	SkyTech or Cruiser
Description of subject matter	The game is designed to teach the player an introduction on corporate social responsibility.
Purpose	The player is experiencing the complexity of corporate social responsibility. The player also learns how to develop and implement a CSR-strategy that addresses the organizations' ethical responsibilities to employees, community, customers, suppliers, the environment and stakeholders.
Kit availability	
Game materials	Computer.
Participant information	
Which audience is intended?	The game is focused on everyone that wants to learn more about

	corporate social responsibility, both students and organizations. There are no limitations on which players can join.
Prior knowledge	No prior knowledge necessary, but before the game starts the player needs an introduction on change management and CSR. If there are time limitations this introduction can be done through home study.
Number	No limits to amount of players
Player involvement	
Player organization: team, coalition, or individual	Players can be divided in teams who each work behind one computer. The teams will challenge each other throughout the game.
Emotional/Educational	Game is of an educational nature.
Active/Passive	Lots of inter-team interaction, no interaction between teams. Mostly based on thoughtful contemplation.
Time considerations	
Duration of play	4-5 hours.
Content or subject matter	
Content and subject	As a CSR consultant hired by SkyTech the player has to design a CSR-strategy and implement this by gaining support from stakeholders.
Dynamics of play	
Playability	The game is mostly based on the fictional organization.
Flexibility	The game is not flexible and cannot be changed during the game.

Table 6.2.1. Basic information on Skytech and Cruiser

Sources: CSR Academy, 2012a, CSR Academy, 2012b, Simply CSR, 2012, personal communication: Stigter, 2012.

6.2.2. Game description

Skytech has been developed by ExperiencePoint a Canadian organization that develops several simulation games and distributes them all over the world. The game teaches how to develop a CSR-strategy and how to implement this in an organization. The game is facilitated by CSR Academy that can place this within a change strategy, but most organizations only require a workshop in which the game is played (CSR Academy, 2012). The game is facilitated for different organizations in different phases. Currently the possibilities of playing the game outside of a workshop are being explored (Stigter, personal communication, 2012).

The player is a CSR consultant hired by the fictional organization SkyTech. The game starts with a theoretical introduction on CSR and change management. After this there is an introduction on SkyTech. The game starts by interviewing the different stakeholders, these stakeholders are part of the computer program and programmed to give answers (CSR Academy, 2012a). An image of one of these stakeholders can be seen on image 6.2.2..The players have the opportunity to create a CSR strategy within budget and time limits. The game is won when the CSR strategy has successfully been implemented. By discussing different strategies in the team their weaknesses and strengths can be discussed, this can be seen on image 6.2.3. The game finishes with a debriefing (Stigter, personal communication, 2012). Cruiser works similarly but has a different



Image 6.2.2. Game design of SKYTech

design, language (Dutch) and setting (bicycle company) (CSR Academy, 2012b). The design of Cruiser can be seen on image 6.2.4.



Image 6.2.3. Commercial of Skytech

remember playing the game, and are requesting it years later. After playing the game most players are quite positive and enthusiastic, and players like to know what the ideal solution was, though there isn't one. Players are more aware about CSR and can handle this subject better. CSR is no longer an abstract subject but is more concrete. The motivation of players increased after the game (Stigter, personal communication, 2012).

Experiences of other players also mention the learning aspects of the game, but also the 'fun' factor is mentioned. Players would recommend the game to others (Simply CSR, 2012). Others mention that the player was challenged by both the content and the process. The players were eager to continue to discuss the tactics of the game (CSR academy, 2012a).

6.2.4. Analysis

Each aspect of the sustainable organization and the change process, as well as each goal of simulation games will be discussed here. It should make clear whether these aspects are or are not represented in this game.

Sustainable organization:

- The sustainability manager: The role the player has is that of a sustainability manager. Therefore this game will be good to train (or select) a sustainability manager. The current sustainability manager will be able to test and train his skills with this game.
- Setting goals: The game does not directly influence setting goals, but will give a broad idea about what these goals should contain.
- Top manager: The manager can experience the difficulties of implementing a CSR-strategy and can be prepared for the problems that come along with it. Therefore it is a good simulation area where the manager can experience this without compromising his job.
- The individual employees: The individual employee will find it difficult to play this game due to the preparations necessary. However once played the player will have a broad idea about sustainability and what this entails.
- Changing the driving force: The driving force can be changed with this game if the players are able to translate the obtained knowledge to their own organization.

6.2.3. Experiences

CSR Academy found out that simulation games were a quite effective tool for learning. The game is played with students and different members from organizations. Roderick Stigter, the facilitator of CSR Academy, found out that because of the games' intended audience (employees in an organization) were able to score better than students. Students



Image 6.2.4. Game design of Cruiser

- Cooperation with external stakeholders: Stakeholders also play a big part in the game, and the player learns to be aware of them. The player learns how he can approach them and how they respond to a CSR-strategy.
- Knowledge and expertise: Knowledge is necessary to play this game, and expertise will be developed throughout playing the game.

Change process:

- Appropriate assimilation of the change process: The game teaches the player that the change process should be assimilated in the organization, and why this is useful. The end result of the game will be better if the CSR-strategy is assimilated to the demands of the stakeholders.
- Maintaining the driving force: The driving force cannot be maintained with this game.
- Maintaining motivation (of management and employees): Maintaining the motivation of employees is not a part of this game.
- Learning: The player learns about developing and implementing a CSR-strategy.
- Problem solving: The problem that needs to be solved lies within creating the CSR-strategy and finding the right tools to implement this strategy.
- Creating a realization of lack of knowledge: The player will not get a sense of lack of knowledge because he is able to acquire the necessary information before the game starts.

Simulation games:

- Learning: As mentioned above the player learns about developing and implementing a CSR-strategy.
- Knowledge creation: Knowledge is not created in this game, rather knowledge is being applied.
- Enhancing communication: The game teaches communicating the CSR-strategy towards the stakeholders, however it does not promote communicating because it is played behind a computer.
- Skill development: Skills are not developed in this game.
- Motivation: The players is motivated in the game, but it is difficult to say he still is after playing the game.
- Problem Solving: When the CSR-strategy is not implemented correctly the player has to solve this problem. Because the player has several rounds, he is able to experiment with different strategies and learn which one would be the best.

The focal points that are represented in this game are colored **Grey** in table 6.2.5.

Sustainable organization	Change process	Simulation games
The sustainability manager	Appropriate assimilation of the change process	Learning
Setting goals	Maintaining the driving force	Knowledge creation
Top manager	Maintaining motivation (of management and employees)	Enhancing communication
The individual employees	Learning	Skill development
Changing the driving force of the organization	Problem solving	Motivation
Cooperation with external	Creating a realization of lack of	Problem solving

stakeholders	knowledge	
Knowledge and Expertise		

Table 6.2.5. Focal points and goals represented in the game: Skytech and Cruiser

6.2.5. Conclusion

SkyTech and Cruiser are two games that have quite a strong theory behind the game. I think the game would be quite good for communication advisors and sustainability managers that don't know how to implement a CSR-strategy. Because the player learns to communicate to stakeholders, and why and how they can be involved in the sustainable organization, it is also understandable why this is useful for the individual employee. The game would be game to play before starting a change process towards a sustainable organization, because at the beginning the employees need to know what a change process entails. In image 6.2.6. the connections that have been made in chapter 5 are connected to the ones made in this chapter. The focal points that are represented in this game are colored grey. The arrows that are grey also represent the connections that have been confirmed in this business case.

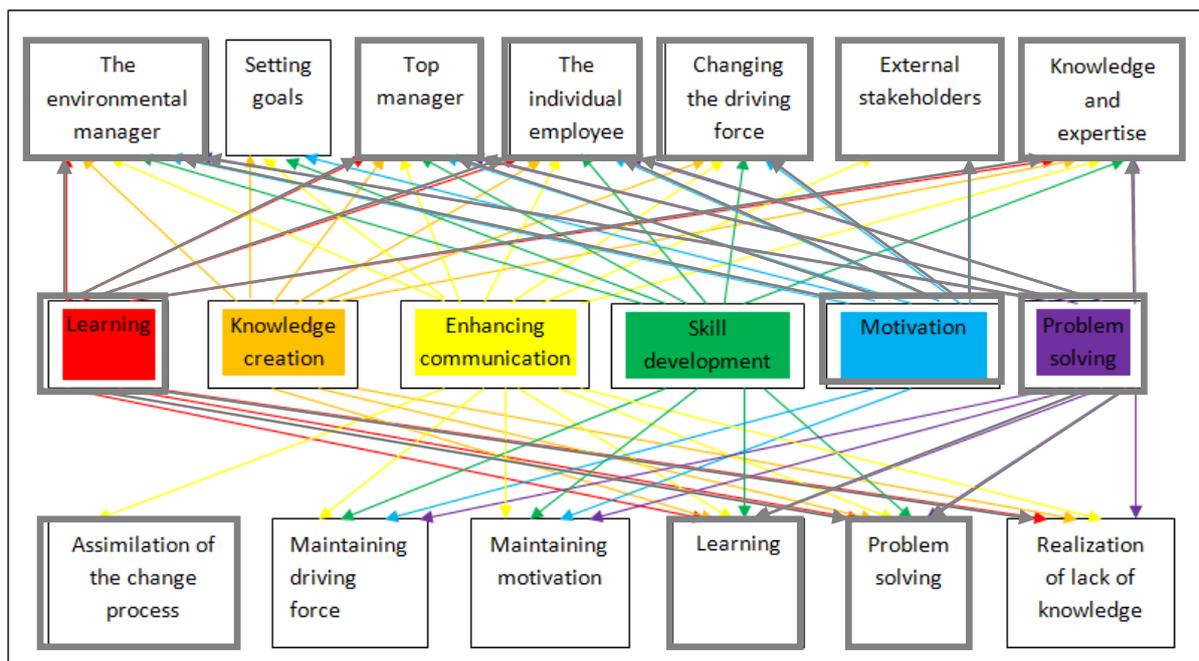


Image 6.2.6. Overview of connections as been seen in the game: Skytech and Cruiser

As we can see in image 6.2.6. there are a lot of focal points represented in the game. The most focal points represented in the game are the focal points of the sustainable organization. Because the game focuses on these focal points it would fit quite well in a change process towards a sustainable organization. But the simulation game could be better if it used the potential goals of simulation games.

6.3. Case Study 3: “Sella ketensimulator”

Sella ketensimulator is a game developed to create insight in sustainable chain management. It is facilitated by MVO Nederland, the Dutch network and knowledge organization for CSR.

6.3.1. Overview of the game

Aspect	Description
Basic information	
Title	Sella ketensimulator
Description of subject matter	The game tries to make the player aware of the environmental and societal impacts in chain management.
Purpose	Giving insight on the environmental and societal impacts of the supply chain.
Kit availability	
Game materials	Computer.
Participant information	
Which audience is intended?	The game is designed for a wide audience.
Prior knowledge	No prior knowledge is necessary.
Number	No limits to amount of players
Player involvement	
Player organization: team, coalition, or individual	Players are divided in a minimum of five teams of 2 players. Each team plays behind one computer. Teams will challenge each other throughout the game.
Emotional/Educational	Game is of an educational nature.
Active/Passive	Lots of inter-team interaction, no interaction between teams. This is not a passive game because the players are behind the computer.
Time considerations	
Duration of play	2-3 hours.
Content or subject matter	
Content and subject	The team is responsible for the supply chain management of the fictional company Sella. The goal is to have a sustainable and well-functioning supply chain.
Dynamics of play	
Playability	The game is based on a fictional company, but this can be translated to the chain management of the own organization.
Flexibility	The game is not flexible and cannot be changed during the duration of the game or for other circumstances than the above, without programming.

Table 6.3.1. Basic information on Sella Ketensimulator

Sources: MVO Nederland, 2012, Personal communication: Van Marle, 2012, Wolthers, 2012.

6.3.2. Game description

The game has been designed by several organizations: MVO Nederland, COS, Nevi, and the CSR Academy. The game is not used in change processes but rather focuses on individuals who want to learn more about CSR. Because it is developed by MVO Nederland, a non-profit organization, the game is mostly played with non-profit organizations (MVO Nederland, 2012).

The games starts with a short introduction on the subject. The game is played on the computer as can



Image 6.3.2. Design of Sella Ketensimulator

be seen on image 6.3.3.. In the game a team is responsible for the supply chain management of the fictional furniture factory Sella. The supplies for this furniture factory come from all over the world as can be seen on image 6.3.2.. The players are responsible to make the entire chain sustainable. The players are challenged with different problems and have to discuss about the solutions for them. Every decision is one round and will result in a change in costs, profits and CSR-aspect of the organization (Van Marle, personal communication, 2012).

6.3.3. Experiences

Players learn to cooperate and learn about different subjects in a pleasant way. The game makes several different subjects understandable in a short period. Though the facilitator, Vincent van Marle, was critical at first, he soon experienced that the game works better than expected. Due to adjustments in feedback (instead of one feedback moment at the end, the game was changed to give feedback after each round) there were more positive experiences. But Van Marle still notices some problematic points in the game: such as clarity about how to gain points and the state of the graphics. There is a difference between players from a non-profit organization and players from a profit organization. The first group is more satisfied with the information given in the game. The latter group finds this information difficult to translate to their



Image 6.3.3. Playing the game

own situation, the reason for this is unclear. Players are satisfied with the competitive elements of the game as well with the learning possibilities. Students who played the game thought it was quite interesting. They didn't know anything about CSR but now understood the problematic and the possible solutions about them (Van Marle, personal communication, 2012).

The player that has been interviewed for this game thought the game was fun, quick and it didn't require much preparation time. Because the game had six rounds to play, he was able to make strategic decisions. The player worked for AgentschapNL and is helping organizations to create a sustainable supply chain. He claimed this game is a good tool for those organizations that want to do this. Although he would prefer to get more feedback during and after the game to create better learning moments (Wolthers, personal communication, 2012).

6.3.4. Analysis

First we will look at the goals that are recognized in this game:

Sustainable organization:

- The sustainability manager: The sustainability manager is not a part of this game, because it focuses on the supply chain manager.
- Setting goals: The game helps developing goals for a supply chain.
- Top manager: The top manager is not present in this game.
- The individual employees: The game does not aid all employees, but this will be a useful game for those who are responsible for the supply chain.
- Changing the driving force: The driving force of an entire organization will not be changed because the game only focuses on the supply chain.
- Cooperation with external stakeholders: The game addresses stakeholders that are involved in the supply chain. These stakeholders are a central theme in this game, and will influence (albeit through an algorithm) the eventual outcome of the game.

- Knowledge and expertise: Knowledge and expertise is only created in the context of the supply chain and supply chain management.

Change process:

- Appropriate assimilation of the change process: The game cannot be adjusted to the change process because it is a set program.
- Maintaining the driving force: The driving force will not be maintained with this game.
- Maintaining motivation (of management and employees): Employees will not be motivated on a long perspective after playing this game.
- Learning: The player learns about the complexity of the supply chain.
- Problem solving: Problems that occur during the game have to be solved.
- Creating a realization of lack of knowledge: The player doesn't realize that he has a lack of knowledge after playing this game.

Simulation games:

- Learning: Learning only occurs on the supply chain.
- Knowledge creation: There will be no new knowledge created because the player is limited to the knowledge he already has.
- Enhancing communication: Communication will not be enhanced because the game is mostly played behind a computer screen. One player found this a lack of the game.
- Skill development: Skill development is limited to the supply chain management.
- Motivation: The player will feel motivated after playing the game.
- Problem Solving: The player is challenged to solve the problem that has been designed in the game.

The focal points that are represented in this game are colored **Grey** in table 6.3.4.

Sustainable organization	Change process	Simulation games
The sustainability manager	Appropriate assimilation of the change process	Learning
Setting goals	Maintaining the driving force	Knowledge creation
Top manager	Maintaining motivation (of management and employees)	Enhancing communication
The individual employees	Learning	Skill development
Changing the driving force of the organization	Problem solving	Motivation
Cooperation with external stakeholders	Creating a realization of lack of knowledge	Problem solving
Knowledge and Expertise		

Table 6.3.4. Focal points and goals represented in the game: Sella Ketensimulator

6.3.5. Conclusion

The Ketensimulator is a good game if you would like to know more about the supply chain. Especially those employees that are involved in the supply chain are able to expand their knowledge and learn more about the complexity of the problem. It helps to prepare and empower those employees that are involved in the supply chain. With this game they will be able to solve more problems on supply chain management. If an organization wants to have a better supply chain, it would be wise to play

this game. In image 6.3.5. the connections that have been made in chapter 5 are connected to the ones made in this chapter. The aspects that are represented in this game are colored grey. The arrows that are grey also represent the connections that have been confirmed in this business case.

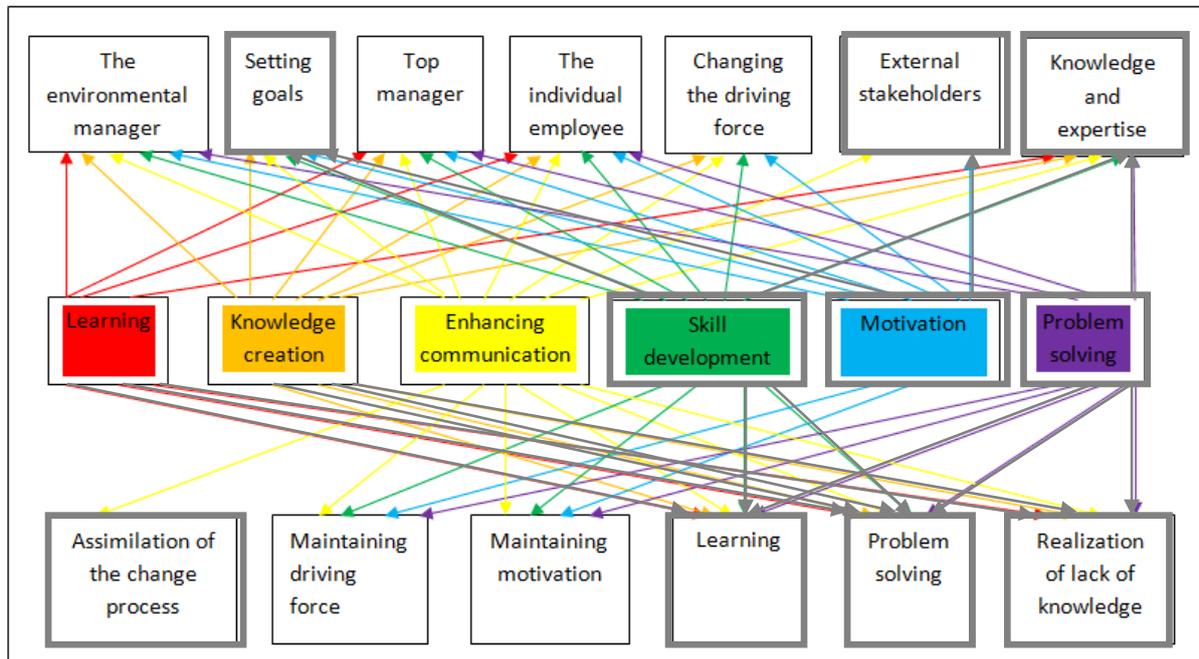


Image 6.3.5. Overview of connections as been seen in the game: Sella Ketensimulator

6.4. Case Study 4: “Smart Grid Game”

The Smart Grid Game is developed by the TU Delft and BelInvolved and is facilitated by the latter.

6.4.1. Overview of the game

<i>Aspect</i>	<i>Description</i>
Basic information	
Title	Smart Grid Game
Description of subject matter	Creating a sustainable electricity system with different stakeholders.
Purpose	The game tries to make the players aware that they have to contact stakeholders if they want to create a more sustainable electricity system. The game has been designed to create a dialogue among different stakeholders.
Kit availability	
Game materials	Different boards and cards for different players.
Participant information	
Which audience is intended?	The game is focused on different stakeholders in the electricity industry.
Prior knowledge	The player should have some insight in how the electricity system works, but this is not necessary.
Number	Per game about 20-30 players, but several games can be played simultaneously and the games can challenge each other.
Player involvement	
Player organization: team, coalition, or individual	Players are divided in five teams of 2-3 persons. Each team represents a role in the game.

Emotional/Educational	Game is of an emotional nature, because players need to become aware of the necessity of working with stakeholders in the energy system.
Active/Passive	Lots of inter-team interaction and intra-team interaction. To connect with stakeholders they need to walk to them, however it is not completely active.
Time considerations	
Duration of play	4 hours.
Content or subject matter	
Content and subject	The players are challenged to create a sustainable energy system. To develop a sustainable energy system players need to involve stakeholders such as consumers and energy suppliers.
Dynamics of play	
Playability	The game is mostly based on a simplified energy system, but can be translated to reality.
Flexibility	The game is a bit flexible and events could be added if necessary.

Table 6.4.1. Basic information on Smart Grid Game

Sources: van den Bergh, 2012, Frijstein, 2012, Personal communication: Meershoek, 2012, Koster, 2012, observation, 2012.

6.4.2. Game description

The Smart Grid Game has been developed by Geertje Bekebrede and Laurens de Vries (professors at the TU Delft) in cooperation with BelInvolved, the latter also facilitates the game. The game has been developed upon request by Netbeheer Nederland (an energy grid manager). Netbeheer Nederland wanted to show stakeholders that cooperating was necessary, and if that they had to change together as a sector. They did not want to organize another seminar with presentations but rather wanted an interactive tool. The goal of the game is to start a dialogue between stakeholders to create a smart grid (Meershoek, personal communication, 2012).

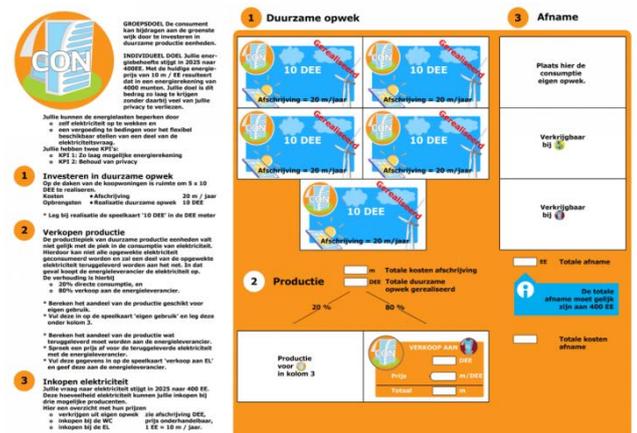


Image 6.4.2. Game board used by the Consumers



Image 6.4.3. Playing the game

The game starts with an extensive briefing of roles, goals and the energy systems. Then players are divided in multiple groups, each one representing a village. These groups are divided in teams and are given a role to play. Each role has its own board to play on, image 6.4.2. shows the board for consumers. After this three rounds are played, in the first round players can start negotiating without any limits. Image 6.4.3. shows players negotiating. In the second round the threat of government interventions gives players a sense of urgency. In the third round players are able to finish their negotiations. The game finishes with the financial and sustainable results. The group with the best results has won the game (observation, 2012).

6.4.3. Experiences

When the game started most players had difficulty understanding their role, the goal and the problematic central to this game. But during the game most players became experts on their subject and learned how to handle the problem during the game. One of the problems in the game is the fact that for every solar panel spare energy sources need to be available. One player said that though he read and knew about it, he never really understood it until he played the game (observation, 2012). Another player learned in this game the value of stakeholders (van den Berg, 2012). It also gave an insight in the energy system and who will have to pay the costs of this transition (Frijstein, 2012).

One of the facilitators of the game, Meershoek, mentions that the game is success. They used to invite stakeholders to the game, but now stakeholders sign up by themselves. He sees this a sign that there is a dialogue among stakeholders. Because the technology of energy grids changes continuously, it is important to change the game when necessary (Meershoek, personal communication).

The game had an evaluation where (out of 21 respondents) 20 players admitted that the game had a positive effect on their insight on the energy market. The evaluation also showed that 19 players found the game a good starting point for discussions afterwards and 20 players had fun playing the game (Evaluation results available upon request via: machiel.bakema@alliander.com).

The player that has been interviewed for this case study enjoyed playing the game. He found the game a good learning tool. He learned faster than by reading and experienced how it works in practice. Working together towards an optimal solution helps creating a unified language and removing borders between different stakeholders (Koster, personal communication, 2012). Another player found the game fun to do. And though it had a smart setup, he wonders whether the game is a realistic representation of reality. He doubts if, in practice, the stakeholders are willing to cooperate as well (Vollebregt, personal communication, 2012).

6.4.4. Analysis

First we will look at the goals that are recognized in this game:

Sustainable organization:

- The sustainability manager: The sustainability manager is too limited with its knowledge to be useful for this game.
- Setting goals: Because of the realization of the usefulness of stakeholders, goals could be set to facilitate stakeholders more.
- Top manager: The top manager learns about the complexity of the energy system and the necessity to negotiate with stakeholders to get the right results.
- The individual employees: The individual employee that finds himself involved in the energy system will find this game quite useful.
- Changing the driving force: The driving force is not a theme in this game.
- Cooperation with external stakeholders: The cooperation with stakeholders is clearly available in this game.
- Knowledge and expertise: Knowledge and expertise is not a main theme in this game, because the player is expected to have a sufficient knowledge about this subject.

Change process:

- Appropriate assimilation of the change process: The game is based on the current processes and problems involved with smart grids. It is not possible to assimilate this to the change process without making changes to the game.
- Maintaining the driving force: This game does not have the driving force as a theme.
- Maintaining motivation (of management and employees): The motivation of employees will not be maintained after playing this game.
- Learning: The player learns about the energy system.
- Problem solving: The player learns to solve problems with the help of stakeholders.
- Creating a realization of lack of knowledge: The realization of a lack of knowledge will not be created in this game.

Simulation games:

- Learning: The player learns only about the energy system.
- Knowledge creation: New knowledge will not be created, because the player only uses his own knowledge and communicating skills.
- Enhancing communication: The player learns to communicate and bargain with different stakeholders. It also helps creating a unified language between different stakeholders.
- Skill development: The player will not learn new skills in this game.
- Motivation: The player will feel motivated on approaching and working with stakeholders.
- Problem Solving: The problems that need to be solved in this game involve communicating with stakeholders and creating a sustainable energy system.

The focal points that are represented in this game are colored **Grey** in table 6.4.4.

Sustainable organization	Change process	Simulation games
The sustainability manager	Appropriate assimilation of the change process	Learning
Setting goals	Maintaining the driving force	Knowledge creation
Top manager	Maintaining motivation (of management and employees)	Enhancing communication
The individual employees	Learning	Skill development
Changing the driving force of the organization	Problem solving	Motivation
Cooperation with external stakeholders	Creating a realization of lack of knowledge	Problem solving
Knowledge and Expertise		

Table 6.4.4. Focal points and goals represented in the game: Smart Grid Game

6.4.5. Conclusion

The Smart Grid Game is a well thought game that helps players learn to cooperate with stakeholders. Without these stakeholders the player will not be able to win the game. This game is therefore a good tool to make players aware of the usefulness of stakeholders. The game fulfils its goal: creating a dialogue between stakeholders. Afterwards almost everyone was motivated on working with stakeholders again. The game is ideal for stakeholders that want to learn to cooperate with each other to create a smart grid. However I believe can also work on stakeholders that need to cooperate on other subjects if some alterations were made to the game. In image 6.4.5. the connections that have been made in chapter 5 are connected to the ones made in this chapter. The focal points that

are represented in this game are colored grey. The arrows that are grey also represent the connections that have been confirmed in this business case.

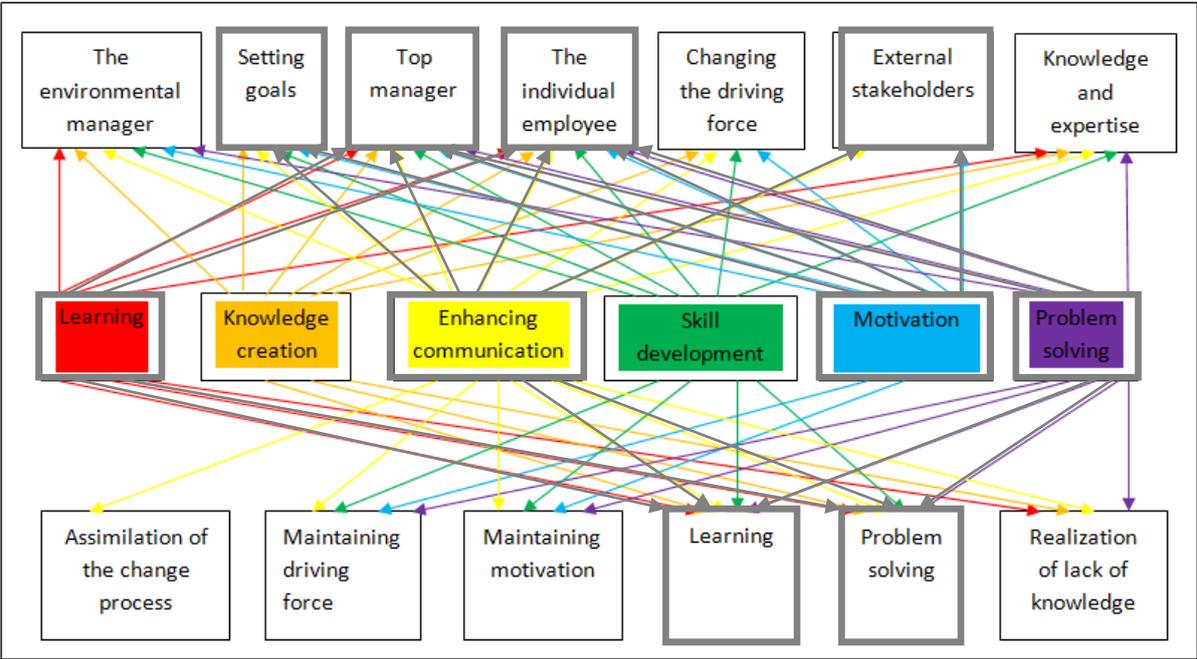


Image 6.4.5. Overview of connections as been seen in the game: Smart Grid Game

The game works well on four goals of the simulation game, therefore the game works as well on most focal points of the sustainable organization. It is remarkable that the game focuses on connecting with external stakeholders and both goals that are connected to this focal point of the sustainable organization are represented in the game. However there are only a few focal points of the change process represented in the game, but since the game has not been developed for this goal it is understandable.

6.5. Conclusion

The four case studies showed a wide variety of simulation games that are available to enhance a change process towards a sustainable organization. Each game has its unique qualities to contribute to the change process in a different way. Because all games focus on learning it will contribute to the process towards a learning organization and changing by learning. However though most players feel motivated after playing the game, there is a lack of focus on this motivation in the game. There is also a lack of focus on individual employees. Most games focus on either top managers or employees with a special function. Another focal point that is barely recognized is maintaining the driving force and motivation. Most games are created for the early stages in which a player has a necessity for knowledge, latter stages are not incorporated in the game. In table 6.5.1. we've put all focal points and goals next to each other. In the image we've colored the box next to it grey if the focal point or goal is represented in the games that have been proposed in the case study. The number in the first row of the table corresponds to the case study and the accompanying game.

Sustainable organization	Change process				Change process	Simulation games				Simulation games	Simulation games			
	1	2	3	4		1	2	3	4		1	2	3	4
The sustainability manager					Appropriate assimilation of the change process					Learning				
Setting goals					Maintaining the driving force					Knowledge creation				
Top manager					Maintaining motivation (of management and employees)					Enhancing communication				
The individual employees					Learning					Skill development				
Changing the driving force of the organization					Problem solving					Motivation				
Cooperation with external stakeholders					Creating a realization of lack of knowledge					Problem solving				
Knowledge and Expertise														

Table 6.5.1. Focal points and goals represented in the four case studies

The focal points of the sustainable organization that have been represented the most are setting goals, the top manager, cooperation with stakeholders, and knowledge and expertise. These focal points are represented in three games. The individual employee and changing the driving force have been represented in two games, where the sustainability manager is showed in one game. This means that the sustainable organization is overall speaking completely represented in the different games, but it could do a bit better.

When we look at the focal points of the change process the results are even more diverse, every game incorporated problem solving, but no games incorporated maintaining the driving force or maintaining motivation. This could be because most games were developed to give an introduction or to be a starting point for the sustainable organization. Most games are only incorporated in a change process occasionally, which would explain the fact that only one game references an assimilation to the change process. Learning and creating a realization of lack of knowledge is represented in respectively three and two games. Because changing by learning is well represented in the different games we could conclude that this is the change thought that connects well to simulation games.

The goals of simulation games are well represented in the different case studies. Problem solving and motivation are represented in four games, and learning and enhancing communication are represented in three games. It is therefore peculiar that the other two focal points: knowledge creation and skill development are only represented in one game.

Image 6.5.2. shows the connections made between the focal points of the sustainable organization and the change process towards the sustainable organization and simulation games. The focal points and arrows drawn in bold black show the focal points, and connections that have not been found in the case studies.

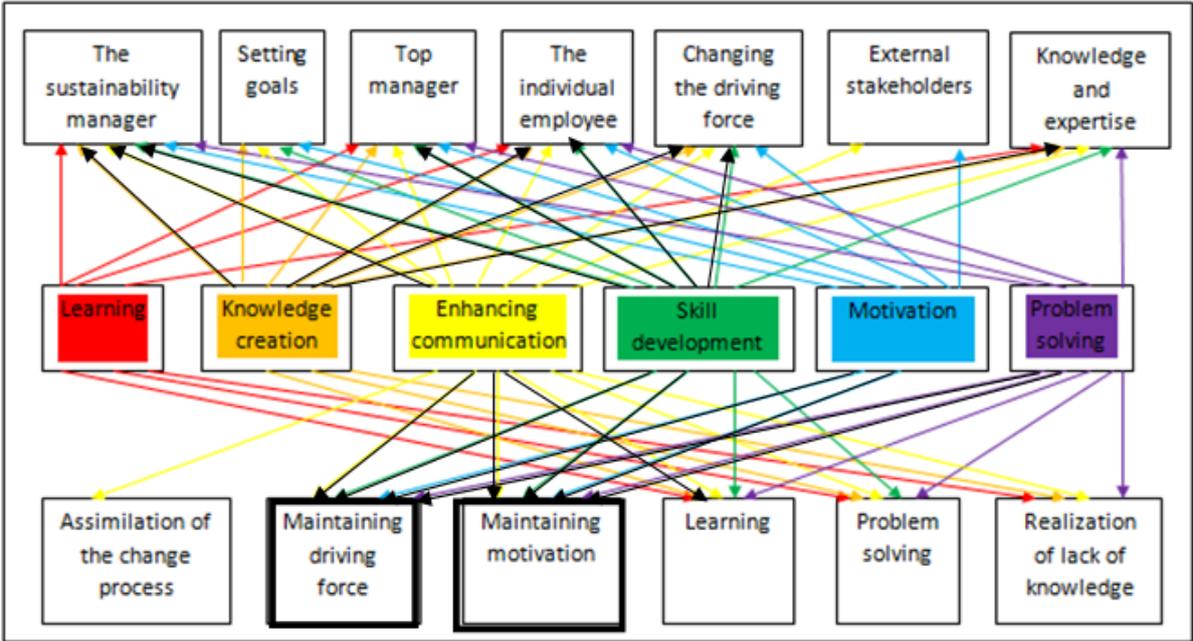


Image 6.5.2. Focal points, goals, and connections that are not represented in the four case studies

We can see in this image that the goals enhancing communication, skill development, motivation, and problem solving do not help maintaining the driving force and motivation. This could be explained because the games used in this case study do not explicitly represent these focal points. This is also the explanation for the lack of influence of the goals, knowledge creation and skill development of simulation games on the focal points of the sustainable organization. These focal points are only represented in one simulation game which explains the lack of connections from these goals. Enhancing communication should result in learning and a better sustainability manager, which is not reflected in the case studies. Though there are a few connections not represented in the case studies it is safe to say that the simulation games presented in the case studies contribute to a change process towards a sustainable organization.

Now that we’ve finished all theoretical and practical chapters we will arrived at the end of this research. We will start in chapter 7 where we will conclude the research. In chapter 8 recommendations will be made towards the theoretical and practical field of simulation games towards the sustainable organization. In chapter 9 we will discuss the research and the choices we made in this research.

Chapter 7: Conclusion

The conclusion will be based on the research questions that have been proposed in chapter 1. Each sub question will be answered first and afterwards we'll look at the main question.

7.1. About CSR and the sustainable organization

7.1.1. What is a sustainable organization?

An organization that has a corporate social responsibility or is a sustainable organization focuses on equalizing people, planet and profit. If possible the organization wants to make profit on each focal point. The sustainable organization is an organization that wants to be sustainable. The organization has a driving force to become sustainable and the organization goes beyond legal requirements to achieve this focal point.

7.1.2. What are the relevant focal points of the sustainable organization?

The sustainable organization has 7 focal points that are necessary if a sustainable organization is created. These seven focal points are:

- The sustainability manager; the sustainability manager is the gatekeeper of all environmental activities in the organization.
- Setting goals; to achieve the sustainable organization it is important that goals have been set. Goal setting not only occurs at the beginning of an organization but should be a continuous process.
- Top manager; the sustainable organization needs visionary leaders that give support to employees and stakeholders.
- The individual employee; the individual employee should be the asset of the organization. Involving the employee will result in a better CSR performance.
- Changing the driving force of the organization; without a strong driving force, the organization might stray in a later phase.
- Cooperation with external stakeholders; the organization should involve stakeholders to enhance their and its' own CSR performance.
- Knowledge and expertise; the organization should have enough knowledge and expertise so it will know which direction it should take and how goals need are set.

7.2. The change process towards a sustainable organization

7.2.1. How can an organization become a sustainable organization?

A standardized change process consists of four parts: Diagnosis, Strategy development, Intervention plan and executing these interventions. To make this change process a bit more applicable for a change process towards the sustainable organization, we have chosen for the green change thought. This change thought focuses on changing by learning and learning in organizations. We've chosen this change thought because many authors mentioned that the sustainable organization is an organization that changes through learning.

7.2.2. What are the relevant focal points of such a change process?

The focal points that are important in a change process towards a sustainable organization are the following three focal points:

- Appropriate assimilation within the organization; the change process should be assimilated in the organization. There is not a perfect recipe for change, because each organization is different, the change process needs to be tailored.
- Maintaining the driving force; the driving force of an organization can diminish over time, that is why it is important focus on maintaining the stimulus.
- Maintaining motivation; the motivation of top managers and employees can diminish over time, which will result in a decline of the CSR performance.

There are also three focal points that are important for changing by learning:

- Learning; it is important to acquire knowledge to be able to set goals and solve problems.
- Problem solving; problem solving will result in double loop learning which is important for changing. When a problem occurs, the employee will need to figure out a different of acting to ensure that the problem will be solved.
- Creating a realization of lack of knowledge; when the employee realizes that is current knowledge is no longer sufficient he will be challenged to learn more.

7.3. About simulation games

7.3.1. What are simulation games?

A simulation game is an intervention tool that is different from a normal game. Though it is still a game there is an explicit and well-thought meaning. Simulation games are a learning method in which people participate in a structured activity or simulation.

7.3.2. What are the goals of simulation games?

Simulation games can be created to achieve 6 goals. These goals are:

- Learning; Simulation games offer an area where the player is able to acquire information.
- Creating knowledge; Simulation games can be set up to develop ideas or future scenarios.
- Enhancing communication; Communication between players is enhanced if this is a part of the simulation game.
- Developing Skills; Skills can be developed because the player can be in a simulated environment where mistakes are allowed.
- Motivation; Simulation games often create a motivation among the players.
- Problem solving; As in most games there is a problem that needs to be solved. By solving the problem the player will be closer to winning the game.

7.4. About simulation games in the context of CSR

7.4.1. How can simulation games contribute to a change process towards a sustainable organization?

Simulation games are suited to contribute to the process towards a sustainable organization, because the goals of simulation games can contribute to the focal points of the sustainable organization and the change process towards the sustainable organization. In image 7.4.1. we can see the connections that can be made between the three different focal points of the game. A

connection is represented by a colored arrow that corresponds to the color of the goal of the simulation game.

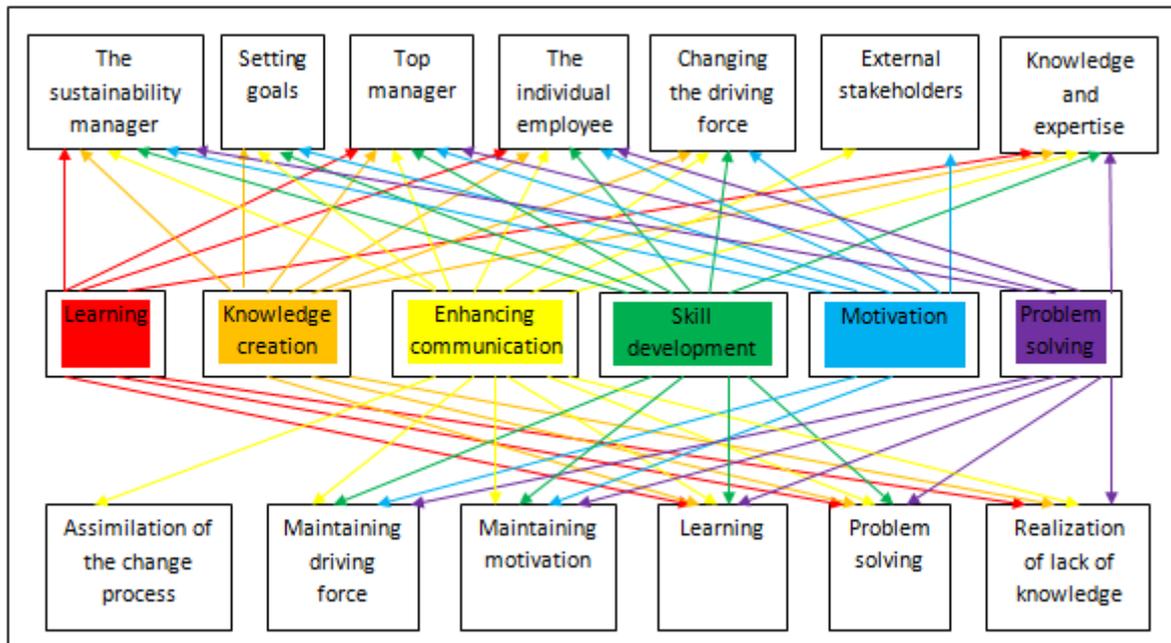


Image 7.4.1. Connections between the goals of simulation games and the focal points of the sustainable organization and the focal points of the change process towards the sustainable organization.

As can be seen in image 7.4.1. there are a lot of connections made between the different goals and focal points. Each goal of the simulation game influences quite a lot of focal points of the sustainable organization and the change process. Most connections are made with the people that work in the sustainable organization such as the sustainability manager, the top manager and the individual employee. Learning and associated focal points are also met with by a simulation game. Stakeholders and the assimilation of the change process are not influenced that well by the simulation game.

7.4.2. Which simulation games are available for the change process towards a sustainable organization?

In the Netherlands there are five different simulation games. Four of these games are used as case studies in this research. The games are:

- Business Model Canvas +: Play it Forward: A game where the player is challenged to create a sustainable business concept.
- Skytech and Cruiser: Skytech is a game where the player is challenged to create and introduce a CSR strategy in an organization. Cruiser is the translated version of Skytech.
- Sella Ketensimulator: A game where the player is challenged to create a sustainable supply chain.
- Smart Grid Game: A game where the player is a stakeholder that needs to cooperate to create a sustainable energy grid.

7.4.2. In what respect do these games fit in with the developed theory?

The games that have been presented in the case studies show the variety of possibilities of simulation games. Each game has its own qualities, has different goals of simulation games and

works best on different focal points of the sustainable organization and the change process towards the sustainable organization. When we look at the image 7.4.2., we see the same image as image 7.4.1., but there are two focal points circled black and it has black arrows. These are the focal points that are not represented in the games we've researched in the case studies.

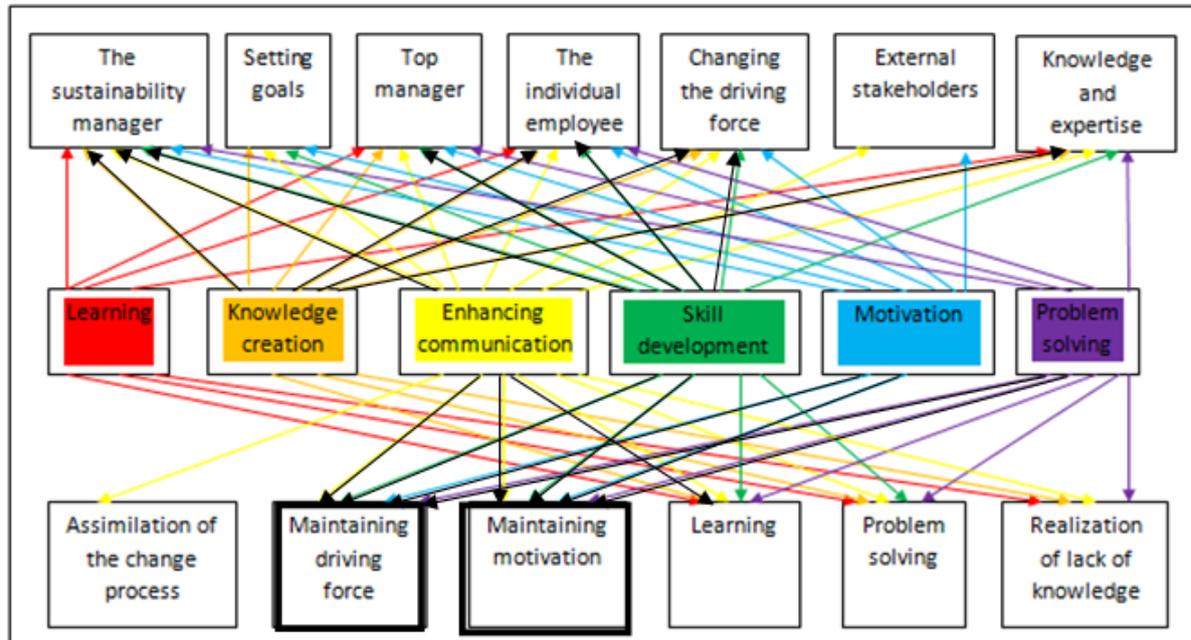


Image 7.4.2. The missing connections between the goals of simulation games and the focal points of the sustainable organization and the focal points of the change process towards the sustainable organization.

In image 7.4.2. we can see that two focal points are not explicitly represented in the games proposed in the case studies. Maintaining the driving force and maintaining motivation was not represented in the games. Therefore the assumption that the goals enhancing communication, skill development, motivation, and problem solving help maintaining the driving force and motivation has not been verified by the case studies. The fact that the focal points knowledge creation and skill development have been represented in only one game is an explanation why not all connections of these goals have been verified. Enhancing communication should result in learning and a better sustainability manager, however this is not reflected in the case studies. Though there are a few connections not represented in the case studies it is safe to say that the simulation games presented in the case studies contribute to a change process towards a sustainable organization.

7.5. Answer on the main research question

At the start of this research we asked ourselves the following research question:

Which indications can be found for the usability of simulation games for the change process towards a sustainable organization; and are these indications reflected in simulation game practices?

The goals of simulation games can contribute to the focal points of the sustainable organization and the focal points of the change process towards the sustainable organization. This contribution is made possible because they fit together on many different elements. These indications suggest that simulations games for the change process towards a sustainable organization are usable. The games

that are currently available in the Netherlands are not able to contribute to every focal point of the sustainable organization and the change process. Most games can only cater to a few focal points, and lack focal on the individual employee or the ability to maintain the driving force and motivation. Simulation games are not useful in every situation but can be useful if the goal of the game complies with the goal of the change process.

7.6. Recommendations

Simulation games for the change process towards the sustainable organization are an upcoming niche in the simulation gaming department. All game facilitators that have been interviewed for this research are continuing their approach with games, and all players are enthusiastic about the games they have played. This research will contribute to the usability of these simulation games. This research gives many indications that they are not just a fun activity but that they have the potential of changing the organization. It should therefore be considered as a useful intervention tool in the change process towards the sustainable organization.

When a game for the change process towards a sustainable organization is to be designed, it would be wise to incorporate most goals of simulation games and the focal points of the sustainable organization and the change process. When these aspects are incorporated, the game would be more effective and successful. The focal points: knowledge creation, skill development and assimilation into the change process towards the sustainable organization are not represented in the games in these case studies. It would therefore be smart to create a game that incorporates these focal points.

Current game facilitators should be aware of the goals of simulation games and the focal points of the sustainable organization and the change process towards the sustainable organization. The facilitators could try to make changes to their game sessions to better accommodating the change process towards a sustainable organization.

When top leaders want to play a simulation game to make their organization more sustainable, they should be aware of the goals that can be reached with the simulation game. If the organization is having problems with one focal point of the sustainable organization then it is important that a game is picked to fix that problem. It is also important that a game will fit into a change process, because that is the best way to create a sustainable organization.

The connections that have been made between the goals of the simulation games and the focal points of the sustainable organization and the change process towards the sustainable organization can be further researched. Other games and games that have to be developed can be researched with the theory that has been developed in this research as well.

7.7. Discussion

Though this research has been done with the utmost precision and every choice has been carefully made, some remarks can be made. Though the choices made in this research influenced the results, the choices were deliberately made. In this chapter we emphasize and explain some choices and make references for further research.

In this research, in paragraph 2.3., different levels of sustainability are introduced. In this research we stated that the end result of a change process should be the highest level, the sustainable

organization. We chose this level because it was the easiest level to define and it will have the best end result for society and the environment. However there are also other levels such as efficiency and strategic proactivity. For organizations that are in the lowest level, efficiency and strategic proactivity could be the highest level they could reach. It would be interesting to know if simulation games could fit into a change process towards a different level as well.

The motivations to become a sustainable organization have been represented to be able to give a statement on a sense of urgency. It would be interesting to know if the motivation to become a sustainable organization has any influence on the choice for a change thought and the intervention tool.

We chose the green change thought because it fitted best with the sustainable organization and simulation games. The green change thought is just one out of five change thoughts; it would be interesting to know if other change thoughts are also applicable to create a sustainable organization, and how this would affect the intervention tool.

Simulation games were the chosen intervention tool from the start of this research. This was chosen because of the interest of author, and because of the choice for the green change thought. Further research could be done to know how other intervention tools could contribute to the change process toward the sustainable organization.

The choice for the Dutch simulation games that have been developed for the sustainable organization was made because of the availability of information and the easiness of communication. In other countries other simulation games are made, and it would be interesting to know which ones these are, and how they would fit in the results of this research. It would be interesting to know if simulation games that have been developed for other purposes are also able to contribute to a change process, and if they make the same connections as the Dutch games.

7.8. Reflections on the research

The theories that have been chosen in this research are chosen from a wide area of expertise. The focus on corporate social responsibility and the sustainable organization is based on information of my bachelor and master education. The focus on the change process designed by De Caluwé & Vermaak has been chosen because of the recommendations of several tutors. The theoretic link between the sustainable organization and the change process has been done in a previous assignment for the course Sustainable Innovation in Organization at the Radboud University, the Netherlands. Because it worked well in this assignment I chose to use these theories in this research. In further research I would choose the same theories because they fit together.

The choice for De Caluwé as a main contributor to this research has to be explained. The tutors from my internship and other connections in the simulation gaming world recommended his work because he is a valued author on simulation games and organizational change. Because his books have been based on different researches, and have been written with other authors I deemed them verifiable enough to use them in this research.

This research focused on simulation games as an intervention tool in the change process. The focal points of the sustainable organization and the change process towards the sustainable organization

clearly show what is necessary in this specific context. They can also be used to investigate other intervention tools.

The case studies that have been done are based on the information provided by the facilitator. There was only one observation possible. In further research I would recommend that every case study has at least an observation and interviews with several players from different game sessions. However this could not be done due to lack of cooperation and availability of game sessions. I could have chosen to focus on one case study but I preferred to give a broad view on the games available. In further research it would be possible to focus more on one game.

The research has been done to define indications for the usability of simulation games for the change process towards the sustainable organization. These indications have been defined at the end of this research, but are nothing more than indications. To define how and the extent in which these indications are represented in practice should be further researched. The case studies that have been done in this research give indications but they need to be further explored. The indications are a good starting point to further research, and would've made this research easier if they had been available at the start of my research.

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I would also like to thank all the interviewees who were so kind to answer all my questions without hesitation. Without them this research would be a mere literary review, without any view of practices.

Finally I would like to thank all my family and friends who have been there for me throughout this research. Maybe we can play a game just for the 'fun' factor? I think I am ready for another trip somewhere.

Again.....

Without a hitchhikers guide..... ☺

Sources

Annex 2 shows source information on the interviewees, observation and images that were done and used in this research.

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Annex 1: Summarizing information on the simulation games from the case studies

Game information

Game	Organization	Contact person	Email
Business model canvas +: Play it Forward	Beco	Eelco Rietveld	rietveld@beco.nl
SkyTech and Cruiser	CSR Academy	Roderick Stigter	roderick.stigter@csr-academy.com
Sella Ketensimulator	MVO Nederland	Vincent van Marle	V.vanMarle@mvonederland.nl
Smart Grid Game	Be Involved	Kees Meershoek	cjmeershoek@beinvolved.nl
Virtual Business Game	Deloitte	Louise van Hoof	lvanhoof@deloitte.nl

Annex 2: List of interviewees and of observation and images used

Personal communication / Interviews

Interviews were held with:

Name interviewee	Organization	Game	Role	Date
Eelco Rietveld	Beco	Business model canvas +: Play it forward	Facilitator	28-8-2012
Remco van der Meulen	TONN Nederland	Business model canvas +: Play it forward	Player	19-10-2012
Roderick Stigter	CSR Academy	Skytech and Cruiser	Facilitator	4-9-2012
Vincent van Marle	MVO Nederland	Sella Ketensimulator	Facilitator	5-9-2012
Leon Wolthers	Agentschap NL	Sella Ketensimulator	Player	19-10-2012
Kees Meershoek	Be Involved	Smart Grid Game	Facilitator	22-10-2012
Klaas Koster	Provincie Utrecht	Smart Grid Game	Player	22-10-2012
Paul Vollebregt	MobiComm	Smart Grid Game	Player	23-10-2012

Observation

Game	Date	Location
Smart Grid Game	11-9-2012	The Hague

Images

No.	Source
3.6.1.	Argyris, 1996, p. 21
6.1.2.	Available upon request via: rietveld@beco.nl
6.1.3.	http://businessmodeldesign.be/wp-content/uploads/2010/06/PlayItForward.pdf
6.2.2.	http://simplycsr.co.uk/Experience_Change_CSR.pdf
6.2.3.	http://simplycsr.co.uk/Experience_Change_CSR.pdf
6.2.4.	http://www.bedrijfssimulaties.nl/simulaties-en-games/catalogus-simulaties-en-games/maatschappij-en-mvo/csr-game
6.3.2.	http://www.sellaketensimulator.nl/het-spel
6.3.3.	Available upon request via: V.vanMarle@mvoederland.nl
6.4.2.	http://cps.tbm.tudelft.nl/site/content/smart-grid-game
6.4.3.	http://www.beinvolved.nl/spellen/bedrijfseducatie/14/smart-grid-game/

Annex 3: Definitions

Several definitions are used in this research. The first is Corporate Social Responsibility, the second is Organization Change, and the third is Simulation Games. These three definitions will be explained here.

Corporate Social Responsibility

Corporate Social Responsibility, or CSR, is an organization that takes responsibility for the consequences of their own doing. The definition was first coined in the 1950's (Maon, Lindgreen & Swaen, 2009). Currently the most accepted definition is developed by Elkington (1994 *in* Steurer, 2009). Elkington believes CSR is a concept in which organizations incorporate the social and environmental concerns, the organization has interactions with stakeholders on a voluntary basis. This is contrary to normal organizations who focus their core business solely on creating profit. When an organization acts upon their corporate social responsibility People, Planet and Profit are balanced evenly. By doing this the negative consequences of their actions are diminished. This vision is also called the Triple Bottom Line (Steurer, 2009 & Cramer et al., 2005). In this research both CSR and sustainable organizing will be used as synonyms.

To make the term CSR applicable the 6 phase-model by Benn, Dunphy & Griffiths (2003) will be used. These six stages are: rejection, non-responsiveness, compliance, efficiency, strategic proactivity and lastly the sustainable organization. When a company wants to be CSR it should aspire the last stage, therefore this is the goal of a change process. The last stage entails that in an organization sustainability is the driving force. Even though making profit is important, the company encompasses their CSR-activities further than legal requirements or market opportunities. A sustainable organization is sustainable because it wants to be sustainable (Benn, Dunphy & Griffiths, 2003).

Simulation Games

Games are played throughout centuries by every generation. Games are played to enjoy oneself in a different, specific setting than reality, the player pretends and needs a different attitude (van Aalsvoort, 2011). According to Huizinga (ordinary) games are known to be unconstrained, played within temporal and special boundaries, and has rules that are freely chosen at the beginning but obligatory afterwards. The goal of a game is the activity itself which creates a feeling of excitement and happiness (De Caluwé et al., 1996, p.19; Michael & Chen, 2006, p.19).

A simulation game is more than an ordinary game because it adds an explicit and well-thought meaning to the game (Michael & Chen, 2009, p.21). Simulation games also promote creativity and an entrepreneurial spirit as well as obtaining goals that involve learning and changing (De Caluwé et al., 1996, p.19). Simulation games are used and created for in different sectors such as teachers, companies, NGO's, and artists (Michael & Chen, 2009, p.26). There are several simulation games available and they can be categorized in method (face-to-face games or computer / serious games) and in development process (tailor-made or off the shelf).

Change process

In this research a change process means a change process within an organization towards sustainability. A change process within an organization is necessary when a viable organization wants to become a (viable) sustainable organization. There are several views on change processes within organizations. One of these views is created by de Caluwe and Vermaak where they define the process in four steps: diagnosis, strategy development, creating an intervention plan and executing (several) interventions (De Caluwé & Vermaak, 2000). Though this is a very simplified view on it shows how a basic change process should look like. In the research the basic change process, along with theories on sustainable organization change will be transformed to a sustainable change process.

Annex 4: Interview Guide

The games that were used in this research were found through extensive internet research and personal communication with several different persons. There were five games found, of which four were able to become a case study in the time of this research. When contacting the four games, four persons were referred to as the contact person of the game. These four persons had experiences with playing and guiding the game. After the interviews each person was asked whether they knew players could be interviewed. Three facilitators offered such information. Out of the 7 players that were offered, only four were able to give an interview. All interviews were done by the author of this research. There were two sets of questions, one for the facilitators and one for the players, and were created in cooperation with my tutors. Some questions were intentionally vague to diminish the influence of the interviewer. The questions were used as guidelines, and follow-up questions were asked during the interview to gain more insight. The interviews that were held personally were recorded. The interviews that were done over the telephone had notes taken during the interview. The relevant information that was used in this research was translated to English.

The questions that were used for the facilitators were divided in three categories. These questions were:

The sustainable organization

- Where is the game played?
- What is corporate social organization within the organization that the game was played?
What was the ratio between people, planet and profit?
- On which level (referring to § 2.3) before the game was used within the organization?

Simulation games

- Why was the simulation game chosen as an intervention tool?
- What is the aim of the simulation game?
- Which elements does the game have?
- Why are these elements chosen?

Experiences

- What is your experience with the game?
- What are the experiences of the players?
- What changed within the organization after the game was introduced?
- On which level (referring to § 2.3) after the game was used within the organization?
- Are you satisfied with the game?
- Does the game meet your expectations?
- Will the game be used in future?

The question to players were focused on the experiences of the players. These questions were:

- What did the organization look like before playing the simulation game?
- Why did you want to play this simulation game?
- What were your experiences of the simulation game?
- Did you learn from the simulation game?
- What did you learn from the simulation game?
- What can you do with this new knowledge?
- What changed within the organization after you played the simulation game?

Annex 5: Observation scheme

The observation in this research was done to obtain more information about the case study. The observation was a non-participant observation. This method was chosen because of the experiences of my internship, if I were to be a participant, the knowledge that I have on sustainability and simulation games would influence the outcome of the game too much. There were four observation goals that were set to create a focus throughout the observation. The first goal was to obtain basic information on the game, such as the goal, number of participants, etc.. The second goal was to focus on the communication between the players. The third goal was to focus on game tactics during the game and if these changed during the game. The fourth goal was to notice whether the player learns from the game. To see find information for these goals I observed the game and listened to remarks of the facilitator and players. During the observation notes were taken to record the information.