

# **Social Media: driver for sustainable food consumption?**

## **Stimulating sustainable consumption patterns through Social Media**

Master thesis (COM-80533)

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# I                   **Acknowledgements**

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*Kind Regards,*

*Lennart van Eekhout*

*“Make no mistake. We’re in a new era. Thanks to social media, the consumer-company relationship has been totally turned on its head. In this new era, companies can no longer get by simply by shouting one-way messages at customers. And no longer do companies hold all the power while consumers struggle to get their voices heard.” – David Smith*

## **II Executive Summary**

A continuing growth of the population up to nine billion people together with a consumption growth, will lead the global demand for food to increase for at least another forty years. Therefore, the competition for land, water and energy is growing. This will have an effect on our ability to produce food and therefore it is necessary for people in the developed world to change their consumption patterns to more sustainable behaviour, as they in general have the finances to make choices in their food consumption behaviour. Focusing on the food sector is important as food provision has the single largest environmental impact as human activity. It is proposed to partially replace animal proteins with plant protein products, as vegetarian diets are favourably compared to present diets on important environmental issues such as land use.

The aim of this study is to stimulate the consumption patterns towards more sustainable food consumption by using a relatively new phenomenon: social media. This stands for all websites, programmes, applications etcetera, which provide space for in-depth social interaction, community formation, and the tackling of collaborative projects. Eleven features of social media were derived from literature, namely:

1. Participation is easy;
2. Participation tasks are highly granular;
3. Participation is driven;
4. There is user 'equipotentiality';
5. Users have personal profiles;
6. Users make online connections;
7. Users can join communities within social media sites;
8. Users can communicate with online connections;
9. Information search is possible;
10. Users get 'attracted';
11. Open for external programs.

Following these features, consumer behaviour theories were incorporated, as those theories explain consumer behaviour and the objective was to stimulate consumer behaviour towards more sustainable behaviour. The theories that were used are bundled in four different groups:

1. Rational Choice Theories (RCT):
  - a. Consumer Preference Theory;
  - b. The Attribute Model.
2. Expectancy-Value Theories (EVT):

- a. Simple Expectancy-Value Attitude Theory;
  - b. Means-End Chain Theory;
  - c. The Theory of Reasoned Action;
  - d. The Theory of Planned Behaviour.
- 3. Morality Theories (MT):
  - a. Norm Activation Theory;
  - b. Value-Believe-Norm Theory.
- 4. Context and Knowledge Theories (CKT):
  - a. The Alphabet Theory;
  - b. Focus Theory of Normative Conduct.

Hereafter, the social media features and the consumer behaviour theories were linked, to find possibilities within social media to stimulate sustainable food consumption. The research revealed that it is recommendable to use more than one consumer behaviour theory and to make sure, if applicable, that all eleven social media features are executed. This preliminary research revealed that there are definitely opportunities in social media to promote sustainable food consumption. The correct use of the eleven features of social media that were described in this research is important with respect to the promotion, as this contributes to a favourable situation wherein consumer behaviour changes towards more sustainable behaviour. The use of consumer behaviour theories thereby is an important aspect, as it directs the ‘message’ of social media sites that promote sustainable food consumption. This is a unique outcome of this research, as there have been no known researches done on the usefulness of social media to promote consumption patterns towards more sustainable ones, based on consumer behaviour theories.

Further research is necessary to see if the presented analysis is accurate for users of social media. Are consumer behaviour theories also applicable for social media in practice? These are obvious questions that can be answered with follow-up research, as this research was purely focusing on known features of social media and how consumer behaviour theories might explain those features or how those theories might be applicable. This research can be seen as a first step into a detailed investigation of the usefulness of social media concerning the stimulation of sustainable food consumption and the overall usefulness, as the answers are probably also applicable in other fields of interest. There are no known researches on the features of social media and how they can be seen ‘through’ consumer behaviour theories, which makes the outcomes unique and useful for future research.

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# **1. Introduction**

## **1.1 General Introduction**

A continuing growth of the population up to nine billion people together with a consumption growth, will lead the global demand for food to increase for at least another forty years. Therefore, the competition for land, water and energy is growing. According to Godfray et al. (2010), this development together with the overexploitation of fisheries, will have an effect on our ability to produce food. Two other threatening developments are the urgent need to limit the impact of the global food system on the environment and the effects of climate change (Godfray et al., 2010). For these reasons, action is needed to be able to feed the entire global population, of which according to the Food and Agriculture Organisation (FAO, 2010) in 2010 still 925 million people are undernourished. Therefore, it is necessary for people in the developed world to change their consumption patterns to more sustainable behaviour, as they in general have the finances to make choices in their food consumption behaviour (Helms, 2004).

The next chapter will contain an explanation of the sustainable food consumption aspect and its features. Why is it important, what does it mean and how food consumption patterns can become more sustainable are questions that will be answered in chapter 1.2.

## **1.2 Sustainable Food Consumption**

Sustainability was one of the most important topics in the last decades. It led, next to other agreements like the United Nations Framework Convention on Climate Change in 1992, to the signing of the millennium goals by 189 countries in the year 2000, whereby agreements were made to tackle the world's most important problems. These agreements were translated into eight different goals, the United Nations Millennium Development Goals. One of those goals was to ensure environmental sustainability (UN, 2010). Due to climate changes and rapidly growing economies (e.g. China, India), which might even accelerate the climate changes, it is of utmost importance to ensure that future generations have access to the resources we have access to today and early action therefore is necessary (Bosetti et al., 2009).

The wide concept of sustainability includes a variety of aspects. The World Commission on Environment and Development (WCED) made a linkage between environmental deterioration, the rapid growth of the world's population and poverty (Brundtland, 1987). It stated: "Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present generation without comprising the ability of future generations to meet their own needs."

Another wide known explanation of sustainability is that it is more than just environment protection and being more energy efficient, namely that it has three closely interlinked elements where it is based upon: the environment, the economy, and the social system, which can be kept in a state of healthiness continuously (Sheehan, 2009). This means that when for example a government wants its country to be more sustainable for the environment, they have to take in consideration all three elements in order to be successful. The environment and the social system are the two most important aspects in this research, where those two elements meet in the field of social media. The economy element will not be taken into consideration, as this research is about individuals and their behaviour on social media. Follow-up research might be to study the influence of the economy element by looking at the effect of clarifying economic benefits or losses of sustainable food use for users of social media.

One of the most important aspects of sustainability is the food and with that the consumption market, as food provision has the single largest environmental impact as human activity (Smil, 2000). This is due to the fact that a major part of surface water and a large part of energy is 'consumed' by food supply. This imbalanced situation needs a stepwise improvement, rather than a sudden one (Vellinga and Herb, 1999). The continuing population and consumption growth thereby is a threatening development, which even puts more pressure on the environment. The demand for food will increase for at least another forty years as the population growth will approximately end at nine billion people (Godfray et al., 2010). Relieving the pressure on the environment by the food sector is therefore in multiple ways an enormous challenge for all nations worldwide (Tilman et al., 2002).

Population growth used to be related to agricultural food surpluses, where the increase in the number of human beings both enabled and demanded agricultural intensification and expansion. However, population growth nowadays and in the future is related to economic development. This makes it seemingly independent of the food production capacity. The population growth is the first thing that happens, and only afterwards people start to question how to feed everyone, which is a severe unsustainable situation (Helms, 2004). This again proposes immediate action to be able to feed the entire population in the future.

The description of sustainability from the Brundland report (1987) that was given above remains very vague when applying it on sustainable food consumption. What is actually meant with this type of consumption? To give an idea about what sustainable food is about,

the British organisation Sustain: the alliance for better food and farming<sup>1</sup> (2007) has put forward three basic principles about the ways in which food should be produced, processed and traded. They are used here, as they represent around one hundred public interest organisations working at international, national, regional and local levels. The principles are:

- Contribute to thriving local economies and sustainable livelihoods – both in the UK and, in the case of imported products, in producer countries;
- Protect the diversity of both plants and animals (and the welfare of farmed and wild species), and avoid damaging natural resources and contributing to climate change;
- Provide social benefits, such as good quality food, safe and healthy products, and educational opportunities.

Although the principles are meant for consumers in the United Kingdom, they could also be applied to other Western countries. The organisation has converted the three basic principles about sustainable food into seven actions for consumers to support a sustainable food system. These seven actions include:

1. Buy local, seasonally available ingredients as standard, to minimise energy used in food production, transport and storage;
2. Buy food from farming systems that minimise harm to the environment, such as certified organic produce;
3. Reduce the amount of foods of animal origin (meat, dairy products and eggs) eaten, and eat meals rich in fruit, vegetables, pulses, whole grains and nuts. Ensure that meat, dairy products and eggs are produced to high environmental and animal welfare standards.
4. Stop buying fish species identified as most ‘at risk’ by the Marine Conservation Society, and buy fish only from sustainable sources such as those accredited by the Marine Stewardship Council.
5. Choose Fairtrade-certified products for foods and drinks imported from poorer countries, to ensure a fair deal for disadvantaged producers.
6. Avoid bottled water and instead drink plain or filtered tap water, to minimise transport and packaging waste.

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<sup>1</sup> “Sustain: The alliance for better food and farming advocates food and agriculture policies and practices that enhance the health and welfare of people and animals, improve the working and living environment, enrich society and culture and promote equity.” It represents around one hundred national public interest organisations working at international, national, regional and local level (Sustain, 2007).

7. Protect your and your family's health and well-being by making sure your meals are made of generous portions of vegetables, fruit and starchy staples like whole grains, cutting down on salt, fats and oils, and cutting out artificial additives.

The notion on sustainable food consumption that is used in this research is the third action proposed by Sustain above and is also derived from a research done by PROFETAS (Protein Foods, Environment, Technology and Society), and described by Helms (2004). According to Helms, there are at least two options apparent to meet the increasing demands for agricultural products. The first option is to expand and intensify agriculture. This option, however, faces some serious problems, as agriculture practices nowadays already appropriates enormous amounts of available natural resources, especially when taking into account land use (Helms, 2004). Furthermore, putting more pressure on agricultural practices will lead to even more natural capital reduction and there are concerns about the sustainability of ecosystem services in general (Tilman et al., 2002), as well as on the feedback of the impacts of the environment on agricultural practice itself, especially regarding soil degradation, irrigation and climate change (Ruttan, 1999).

The second option is to partially replace animal proteins with plant protein products and was initially proposed by White (2000), as a response to the fact that vegetarian diets are favourably compared to present diets on important environmental issues such as land use (Slager et al., 1994; Gerben-Leenes and Nonhebel, 2002; Pimentel and Pimentel, 2003). This is also supported by the United Nations' Livestock, Environment and Development (LEAD) Initiative (2006), as they found that animal farming globally causes more greenhouse gas emissions than all of the cars, lorries and planes in the world put together, and the effect is increasing. The British organisation Sustain: the alliance for better food and farming (2007) has summarised the reasons for this aspect into six associated factors:

- Large amounts of animal feed need to be produced to make relatively small amounts of meat or milk – around 7 kilogram (kg) of grain for 1 kg of beef; 4 kg of grain for 1 kg of pork; 2 kg of grain for 1 kg of poultry.
- Nitrogen fertilisers are used to produce animal feed, resulting in energy use and emissions of, for example, the powerful greenhouse gas nitrous oxide.
- Livestock (particularly ruminants such as cows and sheep) emit high levels of methane from their digestive systems.
- Natural 'carbon sinks' such as forests, that can absorb carbon dioxide, are destroyed to make way for animal grazing, or crops for animal feed, so removing trees and disturbing or destroying soil.
- Animals, their feed and the resulting animal products are usually transported, often over large distances, and usually in energy-intensive refrigerated conditions.

- The demand for meat and dairy products is increasing, especially in booming Eastern economies, shifting from traditional diets to a more Western pattern of consumption.

Another important advantage of the option to replace animal proteins with plant protein products is because Gilland (2002) estimated that, on a national scale, about a quarter of all people worldwide devour more animal proteins than is actually necessary, and because of this fact, indirectly consumes a high amount of cereals. This is due to the fact that a large amount of cereals is needed to feed the global livestock (Gilland, 2002). Herein lays the biggest advantage that possibly could lead to a more efficient diet, as a reduction of animal proteins could contribute to a reduction of the inefficient cereal demand in the animal breeding sector. The resources that would be spared in this sector could then be transferred to the plant protein products which could feed the growing population. Especially the consumption patterns of people in the western world are suitable for the reduction of animal protein products, as the western world has enormous food supplies and the consumption patterns are quite carnivorous (Helms, 2004).

In this chapter, it became clear what sustainable food and sustainable food consumption entails. Some practical examples were given about what actions consumers could take to consume more sustainable food and also the underlying thoughts behind these ideas were explained. Finally, the description of sustainable food consumption was narrowed down to the partial replacement of animal protein products by plant protein products, which will be the leading description for sustainable food consumption in this research.

In the next paragraph, the social media aspect of this research will be introduced and a definition will be given about social media, which will be used during the research.

### **1.3 Social Media**

In the current research, the relatively new domain of social media is discussed, but what is social media exactly? There are several examples of social media, like Facebook or Twitter, which make clear what is meant with social media in the presented research. People from all kind of ages, religions, cultural backgrounds and/or income groups are able to communicate with each other through those social networks. Also governments and companies are able to communicate with each other and to their citizens and customers through social media (Mangold and Faulds, 2009). Therefore social media, also known as Consumer-Generated Media (Blackshaw, 2005) or User-Generated Content (Bruns and Bahnisch, 2009 - 1), should be considered as a communications tool instead of an IT application (Landsbergen, 2010).

A definition of social media was already given in 1954 by Barnes and states that social media is:

*“(...) a social structure comprised of nodes (individuals and organisations) that are connected by one or more specific types of relation(s).”*

There is no universal agreement for a definition on social media, but for the proposed research a modified definition of Bruns and Bahnisch (2009 - 1) will be used. Their definition states social media as:

*“Websites which build on Web 2.0 technologies to provide space for in-depth social interaction, community formation, and the tackling of collaborative projects.”*

As this research will not entail technology aspects, but purely social, sustainable food consumption and communication aspects, the Web 2.0 domain will be excluded from the definition, which leads to the following description:

*All websites, programmes, applications etc., which provide space for in-depth social interaction, community formation, and the tackling of collaborative projects.*

This kind of media describes several new types of online information that are made, initiated, disseminated and used by consumers (or ‘users’ or ‘participants’) with the intention of informing each other about products, brands, services, and issues. (Blackshaw and Nazzaro, 2006). Therefore social media encompass a wide variety of websites, programmes, applications etcetera, especially after the introduction of the so called smartphone, which makes it even easier to access all kinds of social media (Lewis, 2010).

The popularity of social network websites has exploded in the last couple of years (Mangold and Faulds, 2009; Blackshaw and Nazzaro, 2006; Lewis, 2010), which partly answers the question why the proposed research is focusing on social media. According to Mangold and Faulds (2009) it has even become a very important factor in influencing several aspects of consumer behaviour, such as information acquisition, awareness, attitudes, purchase behaviour, opinions and post-purchase communication and evaluation. Furthermore, it is already known that health issues can be influenced through social networks (Christakis and Fowler, 2007; Christakis and Fowler, 2008), which makes the specific choice for social media even more clear. In the case of smoking, Christakis and Fowler (2008) found that smoking behaviour is connected through close and distant social links and groups of interconnected smokers quit smoking together at the same time. Furthermore, they found that smokers are getting more marginalized socially. Therefore, Christakis and Fowler implicated an important

role of social networks for clinical and public health interventions. As the consuming of a high amount of animal proteins is also a possible health issue as mentioned above in the section about sustainable food consumption, this clearly explains the use of social media in this research. Finally, Bruns and Bahnisch (2009 – 1) give another important motivation to use the domain of social media as their research indicated that it can substantially expand people's brand loyalty, it can lead to beneficial synergies, and it can help substantially to improve product and service innovation. The 'brand' in this case would be the partly replacement of animal proteins by plant proteins in Western diets.

Since the research is about the possible ways in which social media could be used to stimulate sustainable food consumption, it is important to know that it is actually possible to influence those various aspects of consumer behaviour. An important question hereafter is how those consumer behaviour theories might help with influencing for instance the buying behaviour of consumers.

Can, and if so, how can social media be used to change consumption patterns towards more sustainable behaviour? Most people have a positive image of sustainability and seem increasingly interested to have a balance in the quality of life and sustainable behaviour (Frantz et al., 2005; Lorenzoni et al., 2007; Moser, 2009). However, the behaviour of those who have a positive image and their actions are often limited concerning positive sustainable behaviour (Moser and Dilling, 2007). Social media applications are now being used by social entrepreneurs, consumers and NGO's to overcome this difference between sustainable attitude and behaviour (Langley and Van den Broek, 2010). As mentioned above, to answer the question how social media can possibly be used to change consumption patterns in developed countries towards more sustainable behaviour, consumer behaviour and behavioural change theories will be used.

To give an insight into the research subject, it needs to be clear what is meant with sustainable food consumption, what kind of social media is referred to, and finally what consumer behaviour and/or behaviour change theories will be discussed. Therefore, this chapter contained the explanation of the first two aspects and an introduction of what it will eventually entail in the actual research in chapter 3. After a brief general introduction (§ 1.1), the aspect of sustainable food consumption was explained (§1.2) and finally, an explanation was given about social media in this chapter. In chapter 3.2, later on in this research, consumer behaviour theories will be described that might explain why and how sustainable food consumption can be 'promoted' through social media.

To sum it up, this study entails the exploration of the possibilities of social media. Can social media be used as a communication tool to change the behaviour of consumers in the

developed world to enhance the sustainable food consumption by the users of those social media? And if so, how can it be used? To answer this question, the research will use consumer behaviour and behavioural change theories. The previous introduction of this subject will lead to the research objective (§ 1.4), the general research question (§ 1.5) and the specific research questions (§ 1.6) that are given in the next chapters.

## **1.4 Research objective**

The research objective is to find out how social media can be used to stimulate sustainable food consumption in Western societies. In other words, what features of social media could help in changing consumer behaviour towards more sustainable behaviour? Thereby consumer behaviour theories will be used to explain those possibilities and to translate the analysis of social media features into recommendations to promote sustainable food consumption within the field of social media.

## **1.5 General research question**

**How can social media be used to stimulate sustainable food consumption in Western societies?**

The concept of social media hereby includes:

*All websites, programmes, applications etc., which provide space for in-depth social interaction, community formation, and the tackling of collaborative projects.*

The concept of sustainable food consumption includes:

*The partial replacement of animal proteins with plant protein products in Western consumption patterns.*

## **1.6 Specific research questions**

- 1) **What specific features of social media are important to be able to influence a change of consumption patterns towards more sustainable behaviour?**

The specific features of social media are important to know, in order to have a valid conclusion in the end, whether consumer behaviour theories (models) can explain and if so, in what way social media could be used to stimulate consumption patterns towards more sustainable behaviour.

2) What consumer behaviour theories can be useful in the domain of social media and sustainable food consumption, and how?

To answer this question, some well-known theories will be elaborated on and analysed in the research (e.g. Rational Choice Theory, Theory of Reasoned Action, Norm Activation Theory). This has to narrow down the wide field of consumer behaviour theories to the ones that are applicable in both the domain of social media as well as sustainable food consumption. Or in other words, it has to narrow down the wide field of consumer behaviour theories to the ones that could explain why social media could be used to change consumption patterns towards more sustainable behaviour. These theories will be described and analysed in chapter 3 to give an answer to this specific research question.

In chapter 2, the methods of how the research will be conducted are explained. Thereafter, the analysis will be done in chapter 3, before the conclusion and discussion part in chapter 4.

## **2. Methods**

### **2.1 *Target group***

As the research is an exploration of the usefulness of social media to stimulate Western consumption patterns towards more sustainable food consumption by using consumer behaviour theories and models, there is not a specific target group for the research itself. The research is therefore a theoretically based or ‘desk’ research, where a possible follow-up research could explore the outcomes of this research empirically. For a possible follow-up research like that, a target group could be the users of social media.

### **2.2 *Literature Study***

The way in which the research is conducted, is as mentioned above a literature research or ‘desk’ research, whereby specific features of social media are derived from literature. Hereby the specific features will be mentioned point by point. Also the consumer behaviour theories that are used in the research are derived from literature. Not every known theory is used, but a wide variety of theories, based on research on a large amount of theories, whereby the ones that seem most applicable to social media are used. Hereby a search is done on researches within the field of sustainability and the theories that were used, which led to a diverse collection of theories. Terms that were used in the search are for example “sustainability theory”, “consumer behaviour theory”, “sustainable consumption theory”, “social media theory” and “sustainable consumption patterns”. The linking part chapter 3.3 will be an analysis of all literature used on both the social media aspect and the consumer behaviour theories aspect together. Therefore, this is an explorative research, purely of a qualitative nature.

### 3 Analysis

Chapter three contains the analysis of this research, whereby features of social media are given (§ 3.1), which has to lead to an answer for the first specific research question about the specific features of social media. Thereafter, behavioural change theories that will be used are explained (§ 3.2) and this chapter should contribute to the answer on the second specific research question. Finally, interfaces between those two aspects are analysed (§ 3.3) and with this chapter, a discussion and conclusion can be made to answer the general research question. Firstly, eleven specific features of social media are given below.

#### 3.1 Social Media

As mentioned before, this research is defining social media as a modified definition of Bruns and Bahnisch' (2009 – 1) one, which was:

*“Websites which build on Web 2.0 technologies to provide space for in-depth social interaction, community formation, and the tackling of collaborative projects.”*

As this research does not entail technology aspects, but purely social, sustainable food consumption and communication aspects, the Web 2.0 domain is excluded from the definition, which led to the following description:

*All websites, programmes, applications etc., which provide space for in-depth social interaction, community formation, and the tackling of collaborative projects.*

However, this definition of social media remains vague and is insufficient to use as a reference when describing social media without further explanation. Therefore, it is necessary to go more in-depth in the field of social media to see what features apply specifically to that domain. The eleven features below are chosen as they are the result of an extended literature research, whereby Hansen et al. (2010), Bruns and Bahnisch (2009 – 1), Kim et al. (2009), and others are used. These characteristics are important to identify in order to investigate later in this research whether consumer behaviour theories (models) are useful and if so, in what way could social media be used to change consumption patterns towards more sustainable behaviour.

##### 3.1.1 Participation is easy

Social media websites and/or applications are easy to join as there are few barriers (Bruns and Bahnisch, 2009 – 1). This is important for users, as they are more likely to be discouraged

when they have to register or give accreditation. This could lead them to not join a social media website or application at all or be more cautious in their participation. The feature that people can use social media sites relatively easy and without any large expenses makes social media a powerful democratization force because it enables communication and collaboration on a massive scale, which goes beyond geographical barriers (Hinchcliffe, 2007).

However, it is important to note that this feature does not necessary have to mean that participation for everybody should be easy. According to Bruns and Bahnisch (2009 – 1), it should only be easy for people with the same interest in specific social media domains. For the current research it is nevertheless discussable whether to focus purely on the users with this common interest, as the aim is to stimulate sustainable consumption patterns for all consumers. Therefore, the feature that participation should be easy will be linked to consumer behaviour theories to find opportunities within this feature that might help stimulating consumers towards more sustainable consumption patterns.

### 3.1.2 Participation tasks are highly granular

New users of social media websites are slowly introduced into the community of those sites by making the participation tasks of users highly granular (Benkler, 2006). This actually means that the contributions of new users to the site are not required to be significant from the start. In the first place this ‘slow’ introduction will be more comforting, as it will lead to the gradual establishment of content creation skills and it will develop the understanding of what is considered to be desirable, quality content by the overall community. Furthermore, significant contributions of new users from the start could also be considered unfavourable compared to the contributions of experienced users.

In practice this means that new users of social media sites are allowed to make very minor contributions in the beginning, and thereby get experienced in participation (e.g. adding ‘friends’, adding comments on discussions, uploading photo’s). Later on, they will move to more significant tasks (e.g. initiating discussions, reviewing products). A social media website might even give different levels of membership to users, whereby they could even assign community leadership roles. Hereby it is not said that all users will advance to the higher levels of participation, as some users feel more confident in lower levels (e.g. when they feel they cannot make or do not want to make more significant contributions).

Bruns and Bahnisch (2009 – 1) make an important notion about this feature for new users of social media, as they state that “by making their participation as easy as possible, a granular task structure enables and encourages them to advance at least as far as they are comfortable to do, rather than unnecessarily resigning themselves to non-participation because the tasks ahead of them appear too daunting.”

### 3.1.3 Participation is driven

Participation on social websites by users is driven by the notion of achievements on the site of those users and by the stimulation of the community to share information about initiatives and the site itself within their own social networks (Langley and Van den Broek, 2010). The most important drivers herein are simple, qualitative descriptions of the achievements that are presented on the site and the degree to which participants are pressured to share the information within their own social network. For the presentation of achievements on the homepage, it is better to have a low level of vividness. According to Langley and Van den Broek (2010) this could be better because it is “quicker and more straightforward to understand, making it better for the busy people who visit the website and want to get the idea within a couple of seconds. For sharing peers that are not part of online sustainability initiatives high vividness is better. Perhaps when a website is recommended by someone you know, you are more likely to take time to look through videos and other information.” An important notion hereby has to be made that the research done by Langley and Van den Broek was explicitly meant for sustainability initiatives. Therefore, it should also be applicable in this research and this is why this specific feature is added.

### 3.1.4 There is user ‘equipotentiality’

Another important feature of social media relates to the way in which such a community is structured. Important in this sense, is that user communities of social media establish and develop their own structures (Bruns and Bahnisch, 2009 – 1). This is different from having a role distribution from the start, which is a more common feature in other communities, such as in the political sphere or working sphere. This feature is also known as ‘equipotentiality’, where all users are seen as equal and where all users could develop themselves to community leaders (Bauwens, 2005). This is also an important feature regarding the accessibility of social media for new users, as according to Bruns and Bahnisch (2009 – 1) those users will be less likely to join when they believe they will not be able to increase their social capital or improve their social standing (i.e. to get more status within the social media site).

When a social network has predefined structures, where there are long-term community leaders, possible new users might be discouraged to join. This could ultimately also mean the end for the social media site or application, as without new users there will be no sustainability for such sites or applications. The community itself should have the feeling that it is running the site and that they are the ones that address any possible controversies or other problems.

### 3.1.5 Users have personal profiles

Members of almost all social websites have to create and manage a personal profile or homepage. According to Kim et al. (2009) social media websites differ in the degree to which

certain information is included. However, an important aspect is that users actually have one, as in this way users can find each other and get 'connected'. Furthermore, personal profiles make it possible to find contributions of members within a community, which could have a positive effect on the overall contributions. A reason for this, is that it adds a competitive element to a social media community, as members could try to become the most productive one regarding contributions, when they have access to personal profiles of other members, where they can compare contributions (Bruns and Bahnisch, 2009 – 1).

### 3.1.6 Users make online connections

A first aspect of this feature that is important, is the actual possibility in social media websites or applications to find 'friends' by searching for their name, preferably in an easy and clarifying way. In this case, users can 'expand their own community' relatively easy. Another important aspect of social media sites is the possibility for a user to find possible 'friends' through facilities, incorporated into the site or application. Examples of such facilities are search engines that use for instance e-mail addresses from e-mail or messenger address books, which are then used for an automated search to look for users with those e-mail addresses. Examples that are derived from experiences are given by Kim et al. (2009) who say that sites like Flickr, Facebook, Twitter, LinkedIn and Yelp can connect with popular email or messenger programs (e.g. Gmail, Yahoo mail, AOL mail, Windows Live Hotmail, Windows Live Messenger) to search for possible 'friends' or 'connections' by identifying existing members of the social media sites. So if a new member of for instance Twitter wants to look which friends, colleagues, or other acquaintances are already active on the site, he or she can search for them by connecting with for instance Windows Live Mail to see which contact persons from that address book have a Twitter account. Furthermore, the social media sites assign potential new members to some of the existing ones, based on their school history, current employers, and physical locations etcetera. Also, most sites allow existing members, and often people who are not yet a member as well, to browse through to existing groups. This option makes it possible for people to select specific existing members and connecting with them. Most social websites like Facebook, MySpace and LinkedIn send 'friend request' messages to the potential new connections of a user that wants to get in contact with them. Hereafter, when the potential 'friend' confirms the request the two users become online friends. Now it is possible for them to view each other's personal profiles and to see each other's pictures for example (depending on the personal privacy settings). Other sites, like Twitter, do not always require confirmation from the existing members to get 'connected' (i.e. become a 'follower')

As stated by Kim et al. (2009), social media sites also have facilities through which users can find other users by simply looking at schools they attended, similar interfaces or values

filtered through a community within a social media site. This is an important aspect for the next feature of social media, namely the actual possibility to join those communities within social websites, as users can relatively easy find these communities. More information about this feature will be given below.

### 3.1.7 Users can join communities within social media sites

In many social media sites, users can join small groups where they have something in common with the other participants in that group. Reasons for joining communities like that can vary greatly. Examples like attending (or attended) the same school, working at the same company, and sharing the same values or beliefs were already given above. Other examples could be having the same favourite sports club, having the same hobby, or living in the same city. In fact, for every interface people might have, there could be a separate community on many social media sites or applications.

How far users are actually involved into those communities, depends on the personal aims and ambitions of the individual user, compared to the communities' wider goals as perceived by the individual (Bruns and Bahnisch, 2009 – 2). Bruns and Bahnisch (2009 – 2) state about this aspect that the better the participants are able to adapt themselves to the community's norms, the more they will be seen as valued members of that specific community. This can lead to a virtuous cycle in which actions that are grounded by various individual motivations (e.g. to build status in the community, to make connections with fellow users, to contribute to the greater good of the community) can contribute positively to online community development. This may lead to setting positive examples which others then may follow.

The communities are overlapping each other and they are also continuously growing in a potentially complex way (Backstrom et al., 2006). The ways in which groups form themselves vary widely among the different social media sites. Lai and Turban (2008) explain some of these differences by mentioning that within huge older sites (e.g. eBay and Amazon), there are no specific group formations. However, users do perform certain actions as an individual and as a group (e.g. review assessment) by using for instance merchant and product review techniques. Some other sites like the online game 'World of Warcraft' allow both formal and informal group formation and their participants operate mostly within groups. Many of the large social network sites (e.g. Youtube and MySpace) allow both personal networks (e.g. 'friends', 'followers') and interest-based groups. Other sites only offer the possibility for interest-based groups.

The description of Lai and Turban above shows that the phenomenon of group formation on social media sites is very complex. There are different ways in which people shape the norms, cultures, and values of the different groups they belong to. The characteristics of these ways are described by O'Reilly (2005) and Boyd (2006), and will be elaborated on below.

- Friendship - Social media sites offer the opportunity for users to find people with similar thoughts and thereby providing potential friendships. Furthermore, users can invite their own existing friends to join groups on the social media sites.
- Democratic Participation – Social media sites leverage the self-service of users to reach the entire Web and not just the centre (Anderson, 2006). In other words, users create what they want and need and there is no differentiation between users.
- Harnessing Collective Intelligence – Social media sites have a competitive advantage as it is almost entirely dependent on the critical contributions of participants. Therefore, network effects from participants' contributions are the key to group dynamics within the sites (Surowiecki, 2004).
- Viral Promotion – Social media sites rely on promotion via word-of-mouth. This actually means that users advertise a service, site, event, product, etcetera, by sharing the positive experiences with others (Phelps et al., 2005).
- Innovation in Assembly – Social media sites can create value by different individuals who provide integrated services. For instance, participants negotiate within the sites about the price of a certain product someone has to offer and another wants to buy. By doing this, the participants create value for the sites, as an extra possibility for the other participants is also opened.
- Pull but not Push – As in social media sites, the users are in control of the contributions, conversations, negotiations, etcetera, pull systems are the only systems that work in these kind of sites.
- Cooperation, Collaboration, but no Control – The social media sites are built of networks of `cooperative data services. Therefore, control is not possible on data use at the other end of the connections.

The mentioned features above clarify the phenomenon of 'community-building' within social media sites. Important for this event, is that it is actually possible to communicate within groups and with online connections. This feature will be described now, as it is the most logical but also most important aspect of communication through social media.

### 3.1.8 Users can communicate with online connections

The very idea of social network sites is for people to get connected with one another. They do this through those online platforms by sharing experiences they had, or sharing opinions about all possible subjects (Lai and Turban, 2008). These experiences and opinions, also known as User-Created Content (UCC's) are shared through personal messages, perceptions, insights, music, videos, photos and the possibilities for these messages are still expanding. An

important aspect hereby is that the users have control over these messages and thereby the social media site itself.

The operators of social media sites provide certain options for their users to communicate with each other. Examples of these services are text messaging, public and private bulletin boards, instant messaging, email, and nowadays even Internet phone services. Furthermore, users get regular updates or notices of statuses from their online connections (e.g. 'friends') or from communities they are part of (Kim et al., 2009).

Besides the possibility to share for example experiences and opinions, most social media sites also offer the possibility to post comments on those UCC's by others. Depending on the privacy settings of members that post the messages, comments can be made by either only 'friends' (online connections) or by all members of the same community or even the entire social media site. Sometimes it is even possible to vote on UCC's (e.g. rating from 0 to 5 stars) or marking a message as 'favourite' or 'spam' (Kim et al., 2009). These features allow members (e.g. 'friends', communities or the entire social media site) to interact with each other and to have discussions.

In the four-part typology of information traffic by Bordewijk and Van Kaam (1986), this feature is called the 'conversation' typology. This is when individuals (members of social media sites in this case) interact directly with each other, without being controlled by central controls or intermediaries. The individuals themselves choose the time, place and topic of communication as well as the communication partners. Massey and Levy (1999) used the definition of Bordewijk and Van Kaam and made it more specific for UCC's, as they called it 'interpersonal interactivity' where the users themselves create the content instead of being empowered by content creators.

### 3.1.9 Information search possible

For people within social web sites (members) as well as people outside those sites it is possible to find the information they need until a certain degree, depending on one's privacy settings. According to Kim et al. (2009) there are two types of information facilities, namely keyword-based search engines and browsing. With search engines, users can look for names of possible 'friends', names of possible communities and specific User Created Content subjects (UCC's). With browsing, users can find selected groups and UCC's in specific categories. On most social media sites it is allowed to find text-based contents through a keyword-based search. In other words, users can find shared opinions, messages, video's etcetera, by searching for keywords about specific topics. Therefore, if someone hypothetically wants to find information (or opinions, reactions etc.) about possible upcoming elections in for instance the United Kingdom in 2011, that person can do a keyword-based search for UCC's by conducting a search on the social media site with the words 'United Kingdom, elections, 2011'.

### 3.1.10 Users get 'attracted'

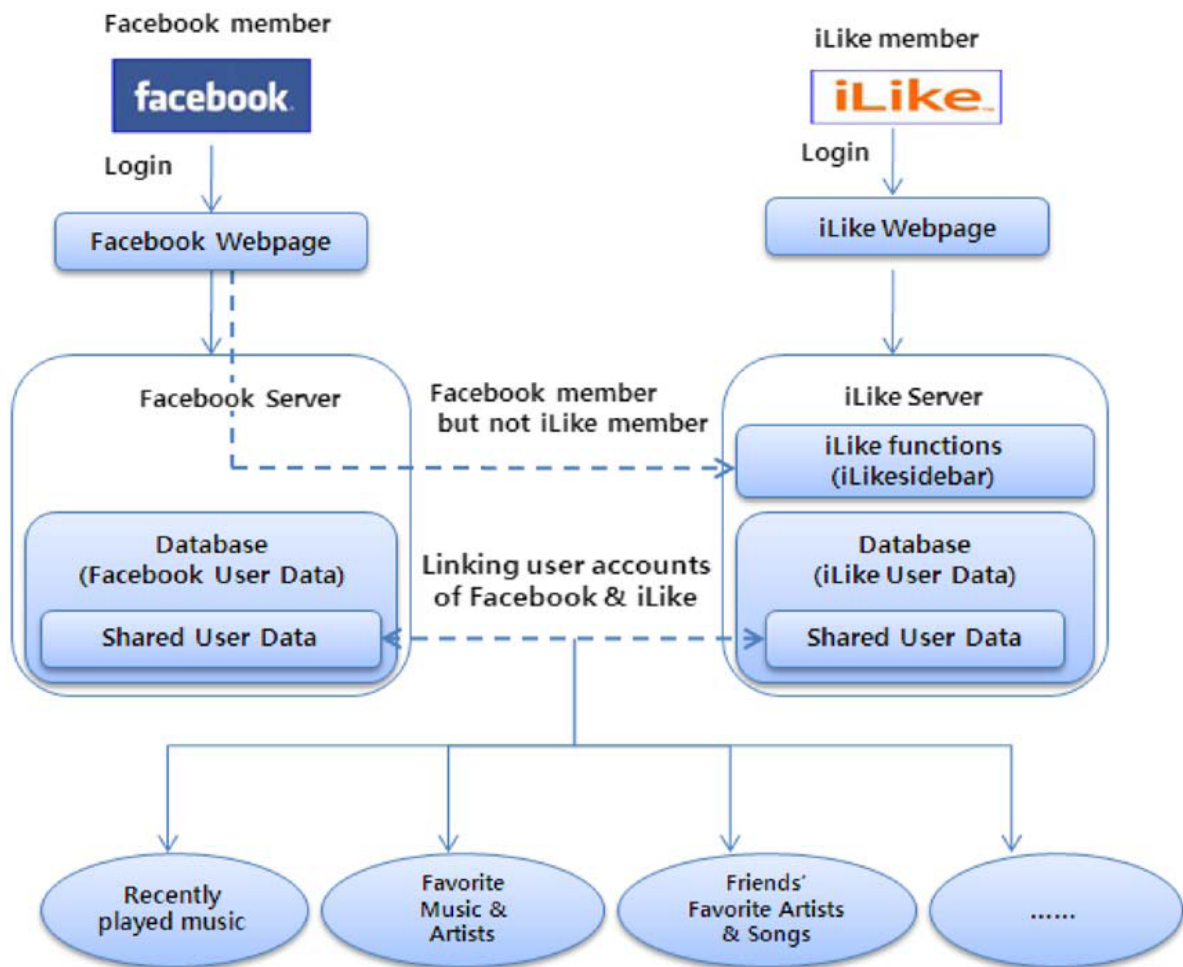
Users of social media sites are often 'attracted by' specific features, which make them spend a long time on those sites and let them return frequently. This feature might also be seen as the 'marketing' feature which 'keeps the users on board'.

Most social media sites show data related to the keywords that users specifically search on. Another way, in which administrators of those sites try to keep their members inside, is to give special designations to UCC messages (e.g. 'popular' or 'recent'). In this way, according to Kim et al. (2009), users might get interested in topics within such messages, without being actually searching for those topics. Kim et al. (2009) also give examples for these kinds of features as they state that sites like Facebook and MySpace provide several types of updated information about 'friends' of members or 'followers' (i.e. online connections). The provided information withholds different kinds of recent actions of a connection (e.g. groups the 'friend' has just subscribed to, whom the friends have communicated with, whom the 'friends' have just connected with, a change/update in a 'friend's' personal profile)

The previous example gives an insight into how users of social media sites are all part of an enormous, complex web of interconnections, relations, and interactions, which makes it appealing for users to be active and to stay active. Now, the final feature of social media that is described in this research will be described. It contains the openness of social media sites for other, external programs.

### 3.1.11 Open for external programs

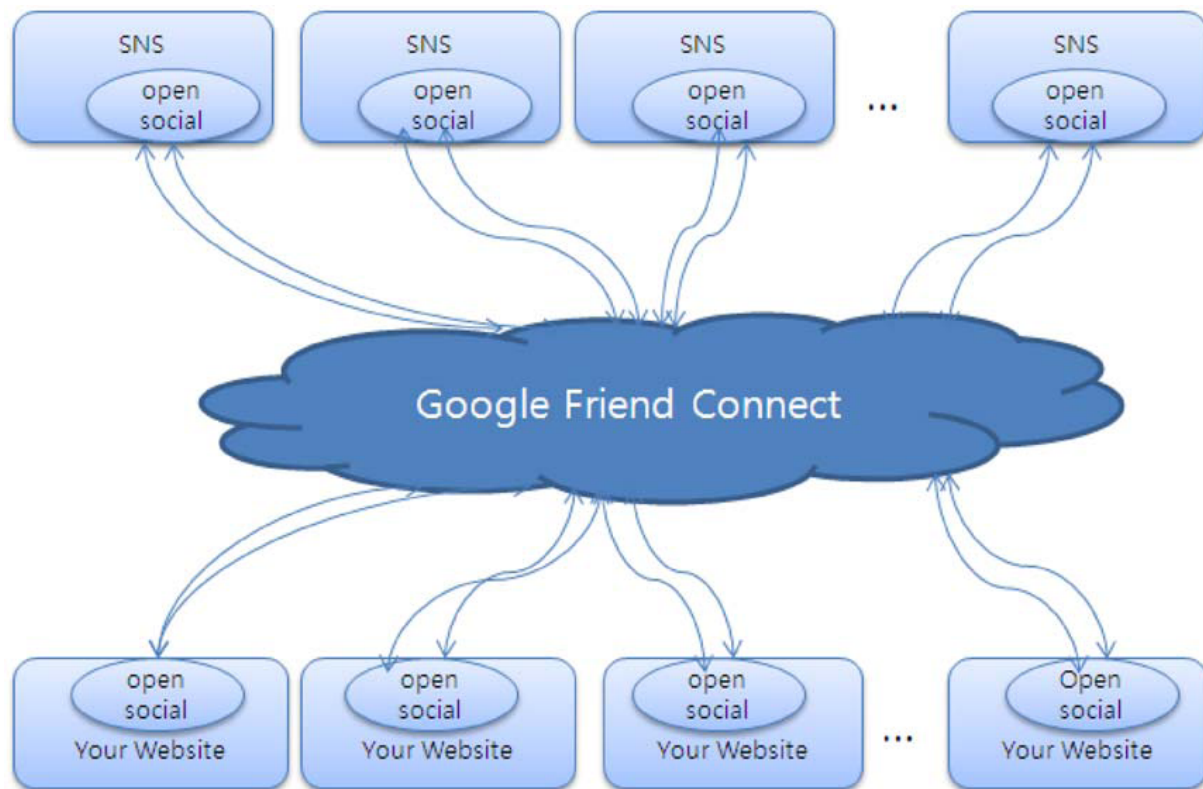
One of the most important changes in the social media landscape of the last couple of years was the opening of the sites for connections with other sites and an Application Programming Interface (API). The latter technical description actually means that social media sites made it available for third-party (application) developers to connect with the sites. Also users became more and more interested in keeping track of their online connections' activities, and therefore, developers of social media sites had to offer these possibilities in order to keep their members (/users) on board (Kim et al., 2009). The two developments will be explained hereafter, accompanied by two figures, derived from Kim et al. (2009), which give an example of social media sites with an open API and a connection with other sites.



**Fig. 1.** Social media site Facebook with open API for third-party application

As figure 1 shows, users of in this case Facebook can log in to iLike and Facebook, after which they can link the two applications. By linking the applications, it is possible for members of the social media site to show their online connections what kind of music they are listening and what their favourite music is. By opening an Application Programming Interface, social media sites have greatly expanded the possibilities for its users. Users are now able to show their ‘friends’ (online connections) what music they like (fig. 1), how they play a game (e.g. Farmville), etcetera, and the opportunities seem endlessly. Nowadays, it is even possible to show movies (e.g. YouTube) on personal profiles within social media sites, or to show online newspaper articles of which users of those sites believe they are interesting to share or whatever other reason they might have for it.

Within one year after Facebook opened an API platform, it reported 24.000 applications (Li, 2008). An enormous increase in membership numbers of Facebook was seen quickly after the opening the API platform (Kim et al., 2009). However, according to Kincaid (2008), most applications of third-party developers turned out to be useless, although there are also examples of successful applications.



**Fig. 2.** Google Friend Connect to link social Web sites

In figure 2, it is shown how users of different social media sites might connect their sites with each other. By linking the sites, users can be active on multiple social Web sites, while they could post for example comments on just one of the sites. In the case of figure 2, the Google Friend Connect makes sure that the comment of a user on one social networking site (SNS), is distributed to other sites. With this opportunity, networks can become even more expanded, as one user of several social media sites is able to connect with all online connections he or she has in all the social media sites he or she has connected with each other (e.g. Google Friend Connect, Facebook Connect, etc.). Furthermore, the user can connect to other sites which have the opportunity to ‘connect’ with social media sites. Hereby, the users can also connect with other members of those other sites through the social media sites (Kim et al., 2009). An example of two linked social media sites can be given between Facebook and Twitter, as it is possible to link the two sites, which creates the opportunity to post a message on the first, which then can automatically also be placed on the latter, or the other way around. This increases the activity on both sites and also the usefulness of both sites (Kim et al., 2009).

### **3.2 Consumer Behaviour Theories**

To look for possible ways in which consumer behaviour theories might operate in the domain of sustainable food consumption and social media, one has to take into account several aspects. This chapter tries to explain the ‘what’ and ‘why’ of those aspects. Consumer

behaviour and/or behavioural change theories which might be useful and applicable in the domain of social media as well as the domain of sustainable food consumption are presented below.

Jackson (2005) highlights the importance of understanding what motivates consumer behaviour and what drives people to change their behaviour, as consumers provide useful frameworks for examining and conceptualising consumer behaviour. More specifically, they can provide information about social and psychological influences concerning 'regular' and pro-environmental or pro-social consumer behaviour. Some models offer for example conceptual explorations into some psychological features of consumer behaviour, while others clarify the contextualization of social norms and the way they are shaped. Another example is the highlighting of the impact of different values on behaviour and there are a lot more examples that make the importance of the models more clear. The models allow people to explore possible ways in which behaviour might change.

The theories below are divided in four different groups, based on their similar backgrounds. These are successively the Rational Choice Models, Expectancy-Value Theories, Morality Theories and the Context and Knowledge Theories.

### 3.2.1 Rational Choice Models

One of the most widespread behaviour theories is the rational choice model. The concept of rationality hereby already makes something clear about the background. The basic thought of the rational choice model is that people behave in such a way that they try to maximise the expected benefits of their actions' outcomes. According to this theory people continuously make deliberate choices between different courses of action. When one has to make such choices, he or she weighs the expected possible costs and benefits and then chooses the one with the lowest expected costs or highest expected benefits (Jackson, 2005).

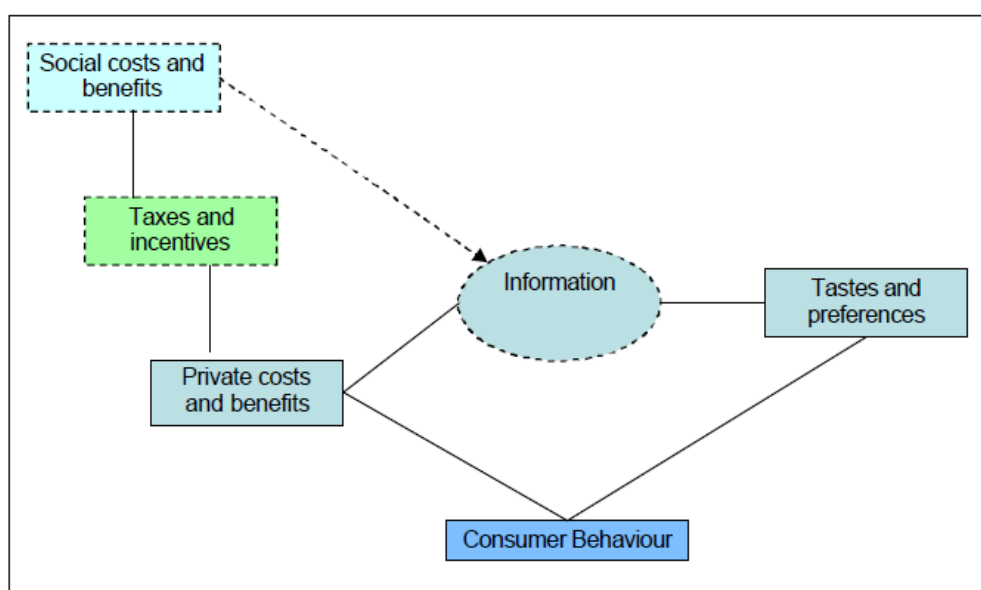
In the literature, rational choice models are also referred to as expectancy-value models as the theory consists of two parts. First people formulate expectations about the outcomes of their possible actions or choices, and hereafter they evaluate those outcomes (Fishbein, 1973).

One of the most important features of the rational choice model is the emphasis on the individual. When using the model, one looks at choices and rational considerations made by the individual. Social behaviour hereby is seen as a collection of individual behaviours, each of which is the result from the individual's choices and considerations about possible outcomes.

The theories that are used in this chapter are, successively, the consumer preference theory (Begg et al., 2003) and the attribute model (Lancaster, 1966). These two rational choice theories will now be described and are chosen as both theories describe consumer behaviour of individuals.

### Consumer Preference Theory

The basis of the consumer preference theory (Begg et al., 2003) consists of four basic elements, namely the consumer's tastes or preference, the price of market goods, the consumer's available income and finally the basic principle of the rational choice theory described above. The latter is used in the consumer preference theory, by looking at the first three basic elements and how they affect the consumer's choice for goods from the ones that are available in such a way that it maximises the subjective expected utility within the boundaries of the available income. This is also called the 'rationality' of consumer choice, as rational consumers make deliberate choices that maximises the expected utility over the possible purchases they are about to make. In order to make these choices, consumers need to possess information about certain elements. According to Jackson (2005), consumers need information about the composition of possible goods they could choose from, and the prices they would have to pay for every single good. Thus, information plays a vital role in the actual behaviour of consumers in existing, daily situations. 'Rational' choices are only possible when there is a state of 'perfect market information'. Another important aspect of the consumer preference theory is that the actual preferences of tastes of consumers lie outside the model itself. The model doesn't say anything about the possible preferences of consumers. This will also become clear in figure 3 below, where a simple economic model of consumer preference is shown.



**Fig. 3** A simple Economic Model of Consumer Preference

Summarising, the consumer preference theory is all about well-informed consumers who can make rational decisions on the basis of that information. Consumers hereby make decisions regarding their personal taste or preference, the price of products, the available products and their income. Therefore, applied to sustainable food, it is important that people receive information about the product, in order to make a rational decision.

### **The Attribute Model**

A variation on the consumer preference model is the attribute model, also referred to as the Lancaster model (Jackson, 2005). The main difference lies in the aspect of utility, as Lancaster in his model doesn't see goods as the direct objects of utility. Instead, he supposes that it are the goods' properties or characteristics that are the source of utility for consumers. In this attribute model, consumption is seen as an activity, whereby goods (single goods or a combination of multiple goods) are seen as input and a collection of characteristics is seen as the output.

In general, even a single good has more than one characteristic. This means that even the most simple consumption activity will have joint outputs (Lancaster, 1966). Lancaster hereby argues that the product's characteristics or the characteristics of a combination of goods are the same for all consumers and, given the units of measurement, are in the same amount, so that the personal aspect in consumer choice becomes clear in the choice between collections of features only, and not in the allocation of certain features to the goods. The objective nature of the relationship between the goods' characteristics plays a key role in the eventual analysis and makes it possible for people to distinguish between objective and private reactions to certain happening such as as changes in relative prices. An example of the combination of goods is a dinner party, which could possess nutritional, aesthetic, and perhaps even intellectual characteristics. These are different than when a meal and social gathering are 'consumed' separately.

The attribute model could be 'applied' to the field of sustainable food consumption if a dinner party is organised with the emphasis on sustainable food consumption and the (positive) attributes that come forward as a result of the dinner party.

To summarise the essence of the theory, the following three statements about goods are made, derived from Lancaster (1966):

- A good does not give utility to the consumer; it only possesses characteristics, whereby the characteristics provide the utility.
- In general, a good possesses more than one characteristic, and multiple goods will share many characteristics.

- A combination of goods may possess a characteristic different from what the goods separately pertain.

There have been many critiques on the rational choice theory. One of the most famous authors that criticized this theory was Simon (1957), who argued that during decision-making people have both uncertainties about the future and costs when they want to get informed about the present. According to Simon, these two aspects are limitations for the extent to which people can make rational decisions, as no easy consideration of the costs and benefits is possible.

Another critique on the rational choice theory has to do with the individuality that occupies an important role. According to the theory, social behaviour is an emergent aspect of the individual behaviours and actions of which it is composed (Jackson, 2005). Elster (1986, 13) explains this by saying that “the elementary unit of social life is the individual human action. To explain social institutions and social change is to show how these arise as the result of the action and interaction of individuals.” An important critique on this feature of the rational choice model is that it underestimates the effect of relationships people have and the actual decision-making in real life situations (Zey, 1992).

The final major point of critique on the rational choice theory that will be described is about the aspect that people would only act out of self-interest. Scott (2000) points his critique towards the acceptance by individuals of the moral dimensions of social structures and to the moral dimensions of individual behaviour. He argues that these two aspects limit the extent to which people act out of self-interest. Furthermore, during decision-making people often place the moral sentiments on broadly altruistic motives, instead of the self-interest (Frank, 1988). Examples of these kinds of behaviours are the caring for our children, relatives, friends or sometimes even strangers.

The three previous critiques on the rational choice theory have contributed to the development of several alternative consumer behaviour theories. Surprisingly, many of these alternatives still contain at least some of the expectancy-value structure of the rational choice theory. According to Jackson (2005), however, they differ from that theory in at least one out of three separate ways: In the first place, they normally do not acknowledge the measurability of different underlying utilities or values. In other words, consumer preferences are not seen and treated purely in terms of the financial values of market transactions. Secondly, they usually attempt to make preferences more clear and offer some kind of disclosure of the underlying expectancy- value structure of certain consumer attitudes and behaviours. Finally, they generally adapt the basic expectancy value structure to incorporate features such as social influence, moral concerns or habits.

### 3.2.2 Expectancy-Value Theories

The alternatives for the rational choice theory will now be described, starting with a simple expectancy-value attitude theory.

#### **Simple Expectancy-Value Attitude Theory**

This social psychological theory sees a consumer's attitude towards a certain product as the outcome of two important features. These are the consumer's beliefs about the product's characteristics and the consumer's evaluation of those characteristics. One of the earliest applications of the expectancy model was that of Vroom (1964), whereby he emphasizes valence in the model. According to Vroom (1964, 15), valence is "... the affective orientation towards particular outcomes." This makes clear that the expectancy part of the model contains the consumer's beliefs about the outcomes of certain actions (e.g. having dinner). Hereby, the rational choice theory is inherent to this part of the model, as the consumer will choose for the option whereby the outcome will have the maximum benefits or the least costs. This action is the, so called by Vroom, 'valence' feature of the simple expectancy-value attitude theory.

The difference between the rational choice theory and the expectancy-value attitude theory has to do with the measurability of consumer's preferences. The first presumes that the only thing that is measurable about consumer preferences are the actual choices people make in the market. This would mean that sales records of companies are one of the most important sources to look at consumer preferences. However, the latter theory presumes that it is possible to make a differentiation between and to measure the two coherent variables, beliefs and values. The effect of this is that it suggests a clear difference between policy initiatives which goals are to change beliefs (e.g. through advertising campaigns, information schemes, labelling, etcetera) and those which goals are to change values (Jackson, 2005). The two antecedent variables hereby are thus the consumer's beliefs about the product's characteristics and the consumer's evaluation of those characteristics.

Summarizing, the expectancy-value attitude theory suggest that "... people orient themselves to the world according to their expectations (beliefs) and evaluations" (Palmgreen, 1984). Those two aspects are a possible entrance for changing consumer behaviour towards more sustainable food consumption, because when consumer preferences and evaluations are known, it is possible to focus on their beliefs and values and to provide information about sustainable food products which might comply with those beliefs and values.

#### **Means-End Chain Theory**

A more extensive variation of the simple expectancy-value attitude theory is the means-end chain theory (Jackson, 2005). In theory it is suggested that this approach can identify the

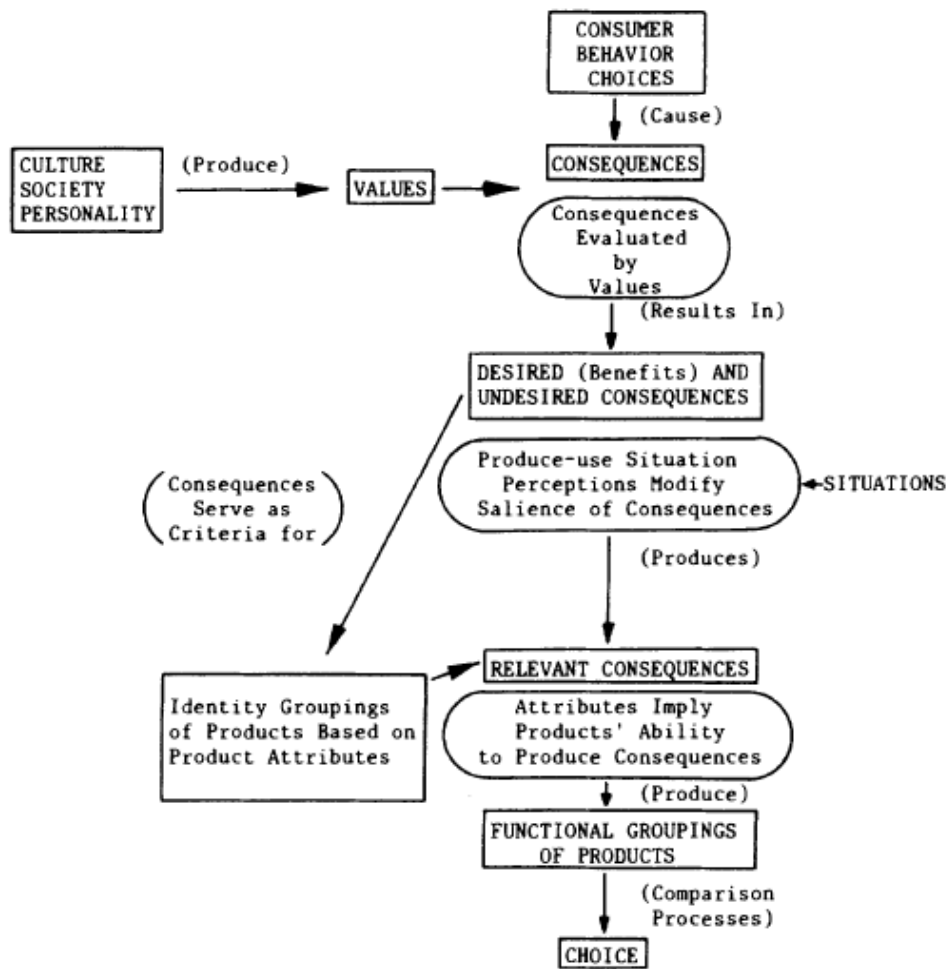
choice criteria that consumers use to evaluate and select among several alternative products or services (Grunert and Valli, 2001; Olson and Reynolds, 2001). Furthermore, the means-end theory is believed to have the potential to be a valuable tool in consumer-oriented food design processes (Costa et al., 2004).

The model is based on two important assumptions about consumer behaviour: Firstly that values, or desirable end-states of existence, are dominant in the guiding process of choice patterns, and secondly that there is an enormous diversity of products that might be satisfiers of consumers' values by dividing them into groups or classes to reduce the complexity of the choice-making process (Gutman, 1982). According to Gutman (1982, 60) the previous description of the means-end chain theory suggests that complementary to the product-class type of product categories, consumers are able to create categories based on product functions.

The starting point of this theory is that either conscious or unconscious consumer behaviour is directed towards a certain goal. Consumers buy products to achieve certain goals, whereby the nature of these goals are often a result of personal, social or moral values (e.g. to feel happy, to belong to a certain social class, to identify with others). The theory namely has two additional assumptions that are more general features, but are also very important. The first assumption is that all consumer actions have consequences and the second assumption is that consumers get experienced over time in associating certain consequences with certain actions (Gutman, 1982).

Consequences in this model can be described as any physiological (e.g. satisfying hunger, thirst), psychological (e.g. improved self-esteem) or social (e.g. enhanced status) result, directed from the consumers' behaviour. Those results can be positive (desirable) or negative (undesirable), whereby the positive results are also often described as benefits (Haley, 1968), which are the advantages of the consumption of products for consumers. The most important assumption in this model is that consumers act to produce desired outcomes and to minimize undesired outcomes (Gutman, 1982). Hereby consumption takes place to maximize the desired consequences, which means that consumers must choose between alternative products. To make this consideration, consumers must learn which products contain attributes that will help to come to the desired consequences. Therefore, the link between product attributes and its consequences is an important aspect in this model.

The means-end chain model is summarised in figure 4 below, derived from Gutman (1982).



**Fig. 4** The Means-End Chain Model

Gutman (1982) explains this model by saying that the values of consumers give valence and importance to consequences. These aspects are unique for each specific situation, which makes the consumer to consider the consequences concerning the demands of a certain situation. The consequences that are relevant out of the person-situation interaction are then the beginning of a functional distinction of products that can produce the relevant consequences the best. Those are the products that are selected as a consequence of the attributes they possess, which implies the products' ability to produce the wanted consequences and to avoid the undesired ones. Thereafter it is a matter of time that consumers learn the difference between products they would not use and those they actually would use and on what kind of moments they would use them.

Applied to sustainable food consumption, an example to explain the means-end chain model might be the purchase of meat replacements. What are the consequences that are produced by the consumption of meat replacements and how do those consequences relate to the

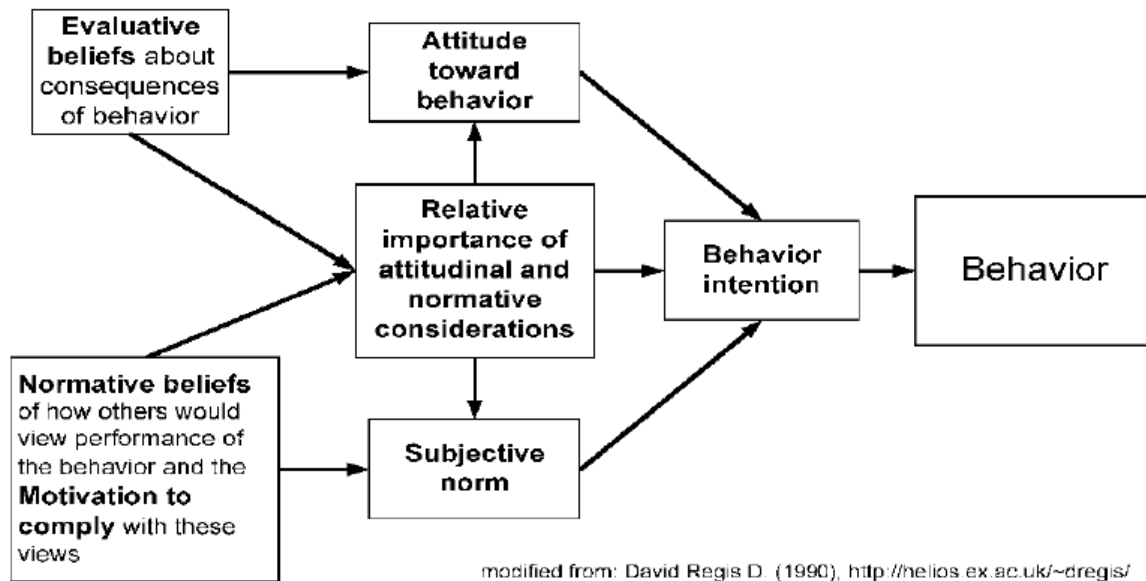
consumer's values? There is a wide range of potential consequences that depend on who is consuming (e.g. taste experience, type of meat replacement, nutrition obtained from the meat replacement, preparation consideration, consumption of additives). The attachment of valences and importance to those consequences is the next step in the process (e.g. relevant values with respect to religion, pleasure, good health). Hereafter, the consumer will categorize different types of meat replacements - or even categorize meat replacements next to meat – based on their physical features. Furthermore, the situation in which the meat replacement is consumed is important (e.g. regular dinner, going out for dinner) as it has an effect on the importance of the consequences, producing consequences that are relevant for a particular consumption situation. Finally, these consequences are used to classify the products, which comprise the initial classification levels. Now, consumers can make a final choice for a certain meat replacement (Gutman, 1982).

### **The Theory of Reasoned Action**

A very wide known theory of social behaviour is the theory of reasoned action (TRA), derived from Fishbein and Ajzen (1975). This model has been used widely to examine environmental decision-making; from the field of source reduction preferences (Cordano and Frieze, 2000), to ethical behaviour (Flannery and May, 2000), to green consumerism (Sparks and Sheperd, 1992). According to Marshall et al. (2010, 406) TRA “provides a strong theoretical basis for studying motivations for environmental related decision-making.”

The expectancy-value theory that was described in the beginning of chapter 3.2.2 is the starting point of this theory, as it assumes people's behaviour is directed by their beliefs about the consequences of their behaviour and the values they attach to those consequences. Beliefs about the consequences and the evaluation of it then lead to a certain attitude towards the related behaviour. This attitude is one of the two most important influences on people's intention to act in a certain way (Fishbein and Ajzen, 1975). This intention to act in a certain way is the key determinant of people's behaviour in the theory of reasoned action.

The second of the two most important influences on people's intention to act in a certain way is the subjective norm. This is a person's perception of what other people – who are important for the given person – think about certain behaviour, rather than the person's own belief about the morality of that behaviour (Ajzen and Fishbein, 1980). Group dynamics or household dynamics hereby are made important in the theory of reasoned action, as is shown in figure 5 – derived from Kollmuss and Agyeman (2002) - below, whereby personal beliefs and values are one side of the input and the subjective norm is the other side of the input. Both inputs lead to people's intentions and ultimately to their behaviour.



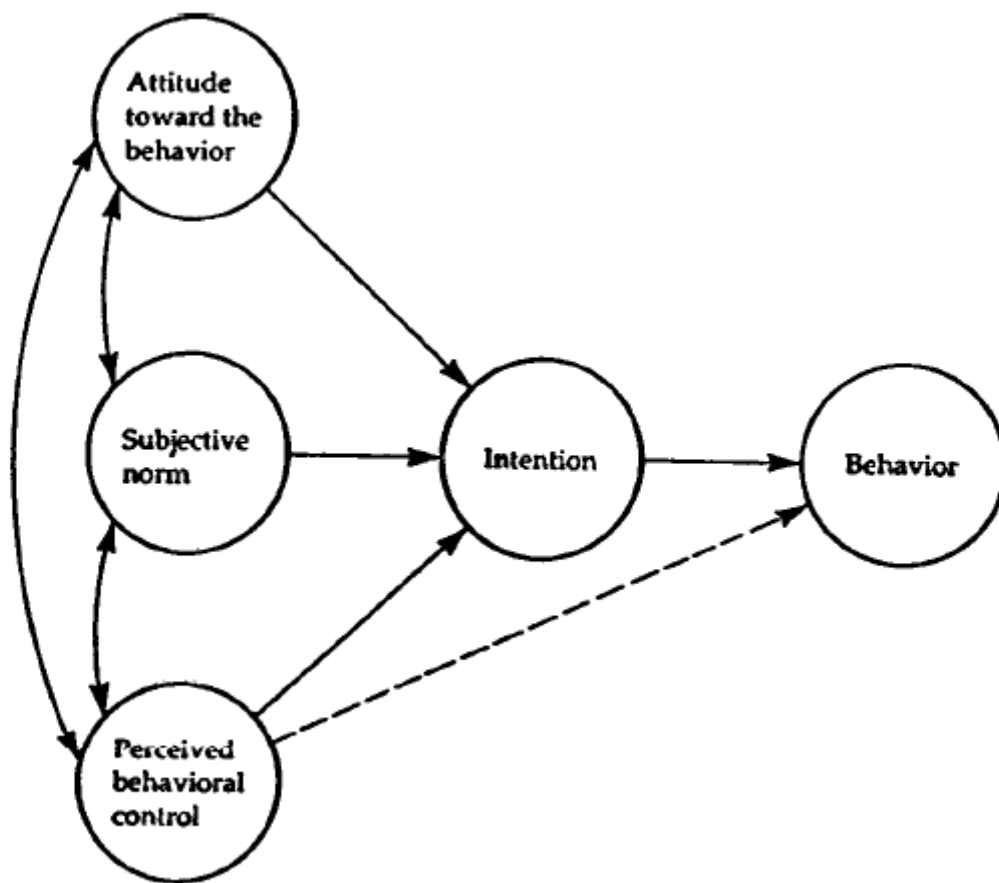
**Fig. 5** The Theory of Reasoned Action

An example to explain the theory of reasoned action in the field of sustainable food consumption might be the purchase of organic food. When you look at figure 5 there are on the one hand the beliefs about and evaluation of the outcomes when buying organic food and on the other hand there are the beliefs about what other people think about that buying behaviour. Thus, when a consumer believes the purchase of organic food might have a positive outcome (e.g. due to health or environment issues) and therefore has a positive attitude toward such buying behaviour, it might be that this positive attitude will be counterbalanced by the belief that other people think (subjective norm) that buying organic products is useless. Of course, it can also be the other way around, namely that the consumer does not have a positive attitude towards organic food, but the subjective norm might influence the buying behaviour of the consumer, as he or she believes other people think that it is important to purchase organic food. With this example it becomes clear that social influence has a (more important) role in the theory of reasoned action, compared to the previous theories.

A theory that is similar to the TRA is the Theory of Planned Behaviour (TPB). In this theory, a central element is also the individual's intention to perform certain behaviour. It is assumed that those intentions capture the motivational factors that give direction to behaviour, as they are indications of people's willingness to try, of the amount of effort people are planning to take, in order to behave in a certain way (Ajzen, 1991). Ajzen (1991, 181-182), however, makes an exception for situations in which this part of the theory is applicable as he stated that only if a consumer's behaviour is under volitional control (i.e. the person can decide for him- or herself to perform or not to perform certain behaviour), that person's behavioural intention can find expression in behaviour. Although certain behaviour might in fact meet this requisite to a certain point, most kinds of behaviour depends on non-motivational factors as

availability and resources (e.g. time, skills, money, cooperation of others) to at least some degree. Taken together, consumer's actual control over their behaviour is represented by these aspects. A person will succeed in performing certain behaviour if that person has the necessary opportunities and resources, and he or she has the intention to perform that kind of behaviour.

Here, the concept of behavioural control is introduced. Intentions are expected to influence the performance to the extent that people have behavioural control, and performance is expected to increase with behavioural control to the extent that people are motivated to try. Hereby, a difference can be made between actual behavioural control and perceived behavioural control. The first is important, as the available resources and opportunities should to some extent determine the believability of behavioural achievement. The latter, however, is of greater psychological interest and has more impact on people's intentions and actions (Ajzen, 1991). The aspect of perceived behavioural control is an important part of the theory of planned behaviour and is in fact the extension to the theory of reasoned action. The model of the theory of planned behaviour, derived from Ajzen (1991), is shown in figure 6 below.



**Fig. 6** The Theory of Planned Behaviour

As figure 6 shows, a person's attitude, the subjective norm and finally the perceived behavioural control determine that person's intention to behave in a certain way. Where the first two factors were already mentioned in the theory of reasoned action, the perceived behavioural control has been a new aspect in consumer behaviour literature when it was introduced by Ajzen and Madden in 1986. Since the introduction of this theory, it is widely used in the field of sustainable food production (e.g. Hattam, 2006) and sustainable food consumption (e.g. Vermeir, 2008; Hjelmar, 2011).

The former theories on consumer behaviour with the expectancy-value aspect are widely known in the field of consumer psychology, while they are at the same time used and criticized, similar to the rational choice aspect that chapter 3.2 began with. Those critics suggest adjusting for instance the theory of reasoned action and the theory of planned behaviour to improve the theories' predictability in situations whereby social aspects of behaviour are important (Manstead, 1999). Manstead (1999) suggests to explicitly adding moral beliefs to consumer behaviour theories, in order to raise the predictability. This suggestion was confirmed by some studies on consumer behaviour related to food consumption, such as on organic milk consumption (Raats et al., 1995), Genetically Modified food consumption (Sparks et al., 1995), and meat consumption (Sparks and Shepherd, 2002). Moral beliefs or norms hereby are consumer's perceptions of the degree of moral correctness in their behaviour (Ajzen, 1991; Manstead, 1999).

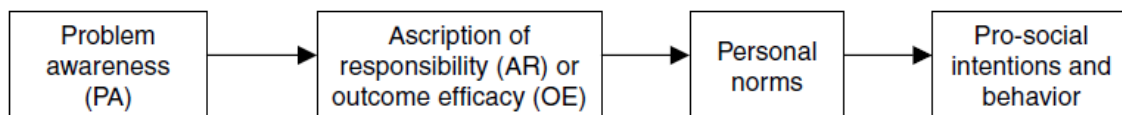
### 3.2.3 Morality theories

The incorporation of moral beliefs or norms in theories such as the theory of reasoned action and the theory of planned behaviour suggests the use of consumer behaviour theories that focus on those aspects of behaviour. Therefore, in this chapter some of those theories are described, starting with the norm activation theory below.

#### **Norm Activation Theory**

Why would people buy certified organic food products that minimize harm to the environment, why would people buy Fairtrade products that ensure a fair deal for disadvantaged producers (Sustain, 2007)? These actions are seen as examples of pro-social behaviour, which can also be seen as actions that benefit another person or other persons (Aronson et al., 2005). Although pro-environmental behaviour often lacks direct benefits, it is still seen as pro-social behaviour as it is also meant to benefit others (De Groot and Steg, 2009). To explain pro-social behaviours, Schwartz (1977) introduced the norm activation theory, in which personal norms direct pro-social behaviour. Personal norms hereby are seen as "(...) feelings of moral obligation to perform or refrain from specific actions" (Schwartz and Howard, 1981, 191).

According to Schwartz (1977), personal norms are directed by four key variables. First, there is problem awareness, which is the degree to which someone knows the adverse consequences of not acting pro-social for others or for other things one believes is valuable. This first variable is also known as awareness of need (Schwartz, 1977). The second variable is the ascription of responsibility, which is the reflecting of feelings of responsibility for the negative consequences when one does not act pro-social. Thirdly, there is the identification of actions that relieve the needs of others or things that are valuable to the person, summarised as outcome efficacy. The fourth and final variable is a person's recognition of the own ability to provide relief. These four variables are all combined in figure 7 below, which explains the norm activation theory in practice (Steg and De Groot, 2010).



**Fig. 7** The Norm Activation Model

An example of the norm activation theory in the field of sustainable food consumption could be the consumption of Fair Trade products. The problem is that producers (and especially their employees) in poorer countries get underpaid or work in conditions that are far less than the standards that are applied in Western countries (Sustain, 2007). The first step in the norm activation model hereby is the recognition of an individual that not buying Fair Trade products could lead to the exploitation of producers in poorer countries. The second step is the feeling of responsibility for those producers and thus the negative consequences for not buying those products. Thirdly, the individual would identify the actions (i.e. buying Fair Trade products) that are needed to relief the things the individual values (i.e. helping people in poorer countries). Finally, the individual would recognize its own ability to actually buy those products and all of the mentioned aspects would then lead to pro-social intentions and behaviour.

According to Steg and De Groot (2010), the norm activation theory appeared to be successful in the explanation of various pro-environmental behaviours and intentions and also in explaining the general pro-environmental behaviour (Nordlund and Garvill, 2002; Schultz et al., 2005).

The norm activation theory was also used as an indicator in a later developed theory, called the value-believe-norm theory that was introduced by Stern et al. (1999). This theory was developed as an answer to some critics' understanding that the norm activation theory was successful in explaining low-cost environmental behaviour, but was far less successful in

explaining settings that were characterized by strong constraints on behaviour, for instance when the studied behaviour is too costly in time or effort (Steg et al., 2005). The value-believe-norm theory of environmentalism will be elaborated on below.

### **Value-Believe-Norm Theory**

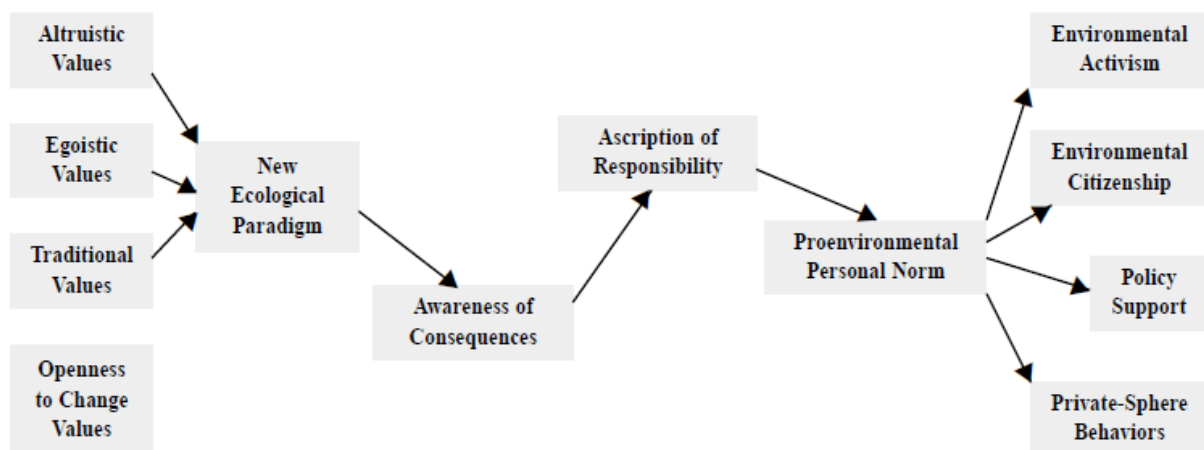
Stern (1999) developed the value-believe-norm (VBN) theory of environmentalism with the assumption that environmentalism is “(...) the propensity to take actions with pro-environmental intent.” The theory links value theory, the new environmental (or ecological) paradigm and the norm activation theory. Whereas the latter was already discussed in above, the first two theories will first be explained briefly to make the VBN theory more transparent.

The value theory is based on the presumption that people who hold mainly self-interested values will engage in pro-environmental behaviour less likely than people who hold mainly self-transcendent values. Or in other words, the value theory proposes that actions are based on values (Schwartz, 1994). Schwartz (1994, 21) hereby has attempted to present a universal understanding of human values, defining the concept of values as “(...) desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity.” According to this theory there are ten motivationally different types of values of analysis at the individual level, namely achievement, benevolence, conformity, hedonism, power, security, self-direction, stimulation, tradition and universalism. The ten different value types are then located in a value space that is two dimensional, deriving four value groups: openness to change (change and independent thought and behaviour favouring values), conservatism (traditional practices and stability favouring values), self-transcendence (caring about the welfare of others), and self-enhancement (caring about one’s own success and the dominance over others. Studies have shown that self-transcendence values are positively correlated with environmental attitudes and behaviour and self-enhancement is negatively correlated with those two aspects (e.g. Karp, 1996; Schultz and Zelezny, 1998).

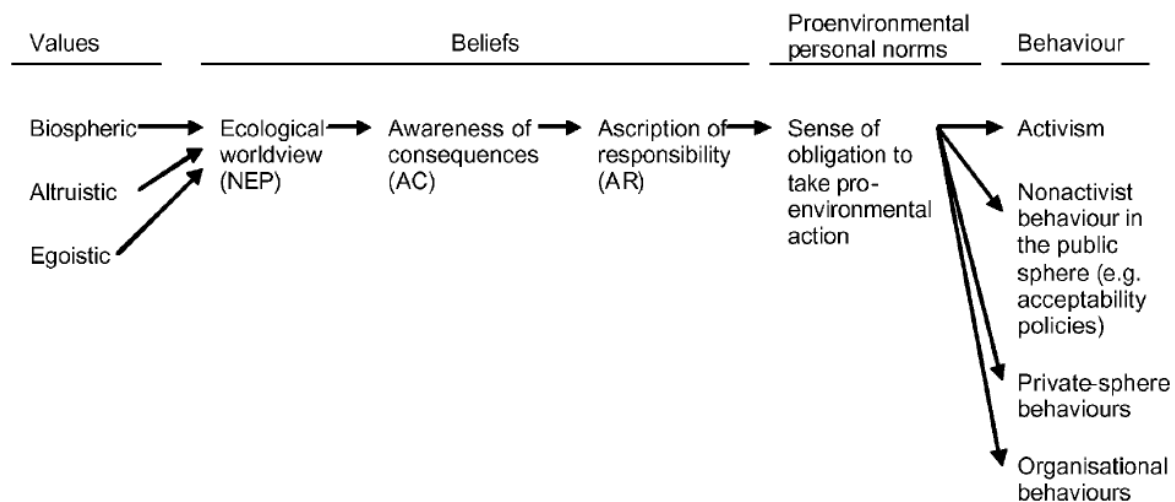
Next to the norm activation theory and the value theory that were explained above, there is the new environmental (ecological) paradigm (Dunlap and Van Liere, 1978). This theory is the measurement of the degree to which one agrees with the worldview that there is a need to limit population growth and to be in balance with nature. The measurement was originally executed by a 12-point scale of environmental questions, but was later updated to a 15-point scale (Dunlap et al., 2000). An example of this latter version of the new environmental paradigm (NEP) model is given in appendix 1 at the end of this research.

The question that now remains is how those three theories (norm activation theory, value theory and the new environmental paradigm) are connected in this value-believe-norm theory.

In their work, Stern et al. (1999) link the norm activation theory to their theory, by proposing that personal norms direct environmental behaviour, i.e. acting pro-environmentally as a response to the feeling of moral obligation. The understanding that the environmental conditions threaten aspects that the individual values (awareness of consequences, AC beliefs) and recognition that that individual can do something to reduce this threat (ascription of responsibility, AR beliefs), activate their personal norms. Value-believe-norm theory incorporates the new environmental paradigm and value theory by suggesting that general beliefs on human-environment relations (NEP) and relatively stable personal values (value theory) have an influence on AC and AR beliefs (Steg et al., 2005). Stern (2000, 413) also links the NEP to the norm activation theory by formulating NEP as “(...) a sort of ‘folk’ ecological theory from which beliefs about the adverse consequences of environmental changes can be deduced.” In figures 8 and 9 below the value-believe-norm theory and all of its variables is shown, derived from Dietz et al. (1999) and Stern (2000), whereby figure 8 (Dietz et al., 1999) shows the openness to change and traditional values and figure 9 (Stern, 2000) shows an altered version without these variables, but with the ‘biospheric’ values which will be explained below.



**Fig. 8** A schematic representation of the value-believe-norm theory



**Fig. 9** An altered schematic representation of the value-believe-norm theory

As is shown in figure 9, the values are divided into three types of values: an egoistic value (in which people try to maximize personal outcomes), an altruistic value (in which people reflect concern for other people's welfare), and a biospheric or ecocentric value (in which people reflect concern with nonhuman species or the biosphere (e.g. Stern et al., 1993).

Furthermore, the values, beliefs and pro-environmental personal norms lead to some kind of behaviour for an individual. Stern et al. (1999) have distinguished four types of behaviours with pro-environmental intent that are influenced by personal norms. The first is environmental activism, which is behaviour whereby e.g. the individual is actively involved in organisations or demonstrations with an environmental background. The second type of behaviour is non-activist behaviour in the public sphere. An example of this second type is environmental citizenship or the support or acceptance of public policies. Thirdly, there is private-sphere environmentalism, which is the purchase, use and disposal of environmental hazardous products a person or household owns. Finally, there are organisational actions, which is e.g. the design of environmentally friendly products.

An example of the VBN theory in the field of sustainable food consumption might be that an individual believes that the purchase of regular food could do harm to other people and/or to the biosphere, whereby the individual also believes that if he or she would take action, the negative consequences could be (partly) averted. A sense of obligation to take pro-environmental actions at this point could lead to three out of four behaviours, as organisational actions are often not driven by an individual. Thus, this individual would behave according to the activism, non-activist in public sphere or private-sphere kind of behaviours that were described above.

The value-believe-norm theory appeared to be successful in explaining low-cost environmental behaviour and the willingness to change behaviour (e.g. Nordlund and Garvill, 2003; Stern et al., 1999). The purchase of sustainable food hereby can be seen as low-cost environmental behaviour. The usefulness of the VBN theory in the field of sustainable food consumption was also confirmed by Zepeda and Deal (2009), who used this theory in their alphabet theory, which will be elaborated on in chapter 3.2.4.

### 3.2.4 Context and Knowledge theories

A fourth and final direction of consumer behaviour theory that will be described in this chapter incorporates a more psychological aspect into consumer behaviour. Two key elements in this type of theory are the context creating and the information seeking (or knowledge) elements. The first is about the power of social influence and about creating a context specifically to anticipate on that social influence, which is described by various authors (e.g. Hamilton, 2003; Griskevicius et al., 2008, Zepeda and Deal, 2009; Cialdini, 2005). The second is about information seeking consumers and thus their level of knowledge and how that has an effect on the outcome of pro-environmental behaviour, which was described in the Alphabet Theory (Zepeda and Deal, 2009). The latter aspect will be described now by showing the example of Zepeda and Deal (2009) and thereafter, the context creating element will be explained and how it has an influence on consumer behaviour.

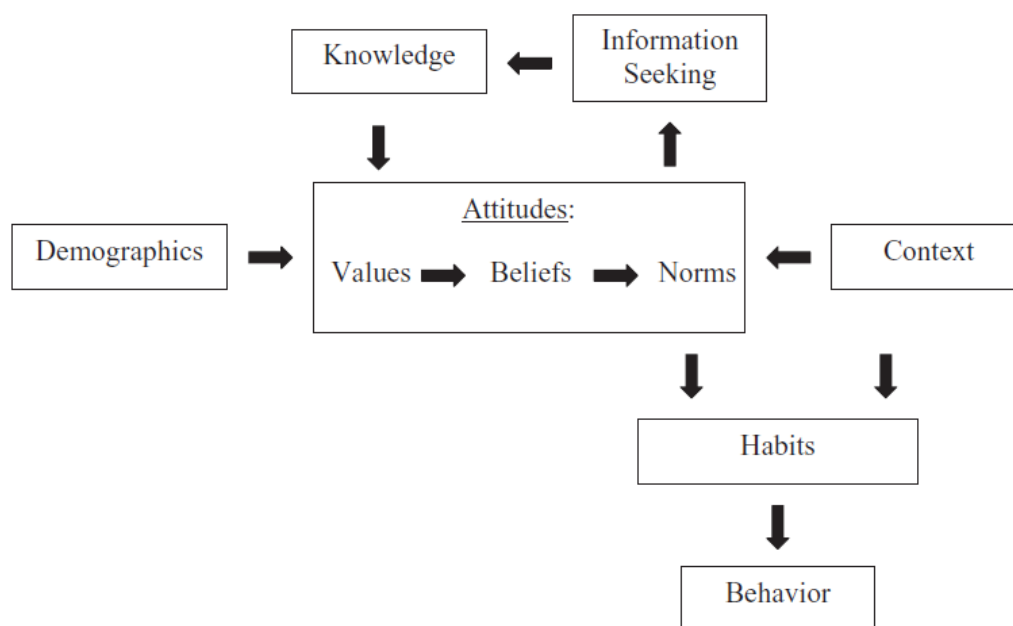
#### **The Alphabet Theory**

The value-believe-norm (VBN) theory that was described in the previous chapter is expanded by Zepeda and Deal (2009) with several other elements, which together led to the alphabet theory. The first aspect they added to the VBN theory was the attitude-behaviour-context (ABC) theory by Guagnano et al. (1995). The most important feature of this latter theory is that it proposes that attitudes affect behaviour when the context is neutral. Context hereby includes costs, regulations, policies and other exogenous influences. According to Stern (2000), the VBN theory is best suited to explain pro-environmental attitudes and ABC theory explains the behaviours. The findings of Stern (2000) were also supported by Schultz et al. (2000), who found that while religious beliefs have an adverse effect on environmental attitudes there is no statistical difference on environmental behaviours. According to Zepeda and Deal (2009), the ABC theory can be used to explain conflicting results for many demographic variables. It proposes that attitudes would only be correlated significantly with behaviour depending upon context, as demographic variables could influence values, beliefs and norms. Zepeda and Deal argue that it would otherwise not be possible to explain that education is one of the few demographic variables that is consistently associated with organic or local food purchases, while the income variable is not (Yiridoe et al., 2005; Li et al., 2007).

Next to the value-believe-norm theory and the attitude-behaviour-context theory, Zepeda and Deal (2009) added the aspect of knowledge and information seeking into their alphabet theory. They found that the level of knowledge and information seeking behaviour has an effect on the buying behaviour of consumers regarding local or/and organic foods. Heavy organic shoppers are very knowledgeable about organic farming practices which reinforce their pro-environmentalist behaviour. On the other hand, conventional shoppers are not very knowledgeable about local and/or organic foods and they are not putting effort to seek information about it.

A fourth aspect of the alphabet theory is the role of habits. Zepeda and Deal (2009) discovered that habits play a key role in decisions during food-shopping. It turned out that people who learned to cook early in their life are more likely to be conventional shoppers, as they are more likely to be affected by familial habits. Most heavy organic shoppers learned to cook at a later stage in life, whereby they were not bound to familial habits and at a later stage in life there was a greater availability of organic foods. Also the context plays a role herein, as most conventional or light organic shoppers learned to cook out of necessity and for the heavy organic shoppers a relatively higher amount of people admitted they learned to cook motivated by pleasure.

All of the features that were mentioned above led to the alphabet theory that is shown in figure 10 below. The figure is derived from Zepeda and Deal and shows all aspects that, according to the alphabet theory, together leads to an individual's buying behaviour.



**Fig. 10** The conceptual framework of the Alphabet Theory

As figure 10 shows, the behaviour according to the alphabet theory is directed by a lot of different factors. Psychological factors in this model seem to be more important than in previous consumer behaviour models. The last theory that will be described below is the most psychological one, as it considers people's choices and compliance (or not) to behavioural change tactics and social influence.

### **Focus Theory of Normative Conduct**

The final theory that is described, is based on the work of, among others, Griskevicius et al. (2008), Cialdini (2005), Hamilton (2003) and Cialdini et al. (1990; 1991), whereby the theory is generally named as the focus theory of normative conduct.

The focus theory of normative conduct is about creating a context in certain situations to come to a desired outcome. Thereby it is the most straightforward theory as it comes to practical examples which will be given below. The most important aspects in creating context are the peer influence or interpersonal influence tactics, which are intentional actions that are used to change others' attitudes, beliefs or behaviours (Barry and Shapiro, 1992). According to Griskevicius et al. (2008) it is all about peer influence as "the opinions, experiences and behaviours of people's friends, neighbours and co-workers can provide an invaluable goldmine of persuasive resources." Two important key principles about basic social influence are given by Cialdini (2005) and are the backbone of this theory. They will be explained, accompanied by examples to explain these statements.

The first key principle is that people often ignore or underestimate how their actions in a situation are based on similar actions of others. An example clarifies this statement (Bryan and Test, 1967): Let a street musician play music in a crowded area and count the number of people who pass and put money in the basket or hat after another person already gave some money or after no such contribution happened. It turns out people donate money relatively more often when someone else has already donated some money than when there has not been a contribution yet. Furthermore, it seems that people do not notice this phenomenon, as they do not locate the factor of the influence of the other contributor as a cause for their own donation. The latter is also confirmed by a study of perceived motivations for energy conservation (Schultz et al., 2005). When people were asked about their reasons for conserving energy at home, they rated 'because other people are doing it' as the least important motivation. However, when the relationship between participants' beliefs in these reasons and their attempts to save energy were examined, the belief that others were conserving correlated twice as high with reported energy saving efforts than any of the other reasons did.

The first principle is especially important when you also take into consideration that people often resist influence when they recognize that other people are trying to persuade them (Hamilton, 2003). As the example of the street musician shows, if people are not aware that other people are trying to persuade them, they are relatively more susceptible for peer pressure and context effects.

The second key principle is that people often ignore or underestimate the persuasive influence that others' behaviour can have on the choices of a certain audience. Where the first principle was more about the actual actions of other people and the effect, this second statement is more about the content of a message and the effect. The most famous example to explain this is a research done by Goldstein et al. (2005) on the reuse of towels in a hotel. Hereby, one of four different cards was put in every guestroom. Each card had a different message: One had the line "Help save the environment", followed by information stressing respect for nature. Another card stated "Help save resources for future generations", which was followed by a text stressing the importance of energy saving for the future. The third card started with the line "Partner with us to help save the environment", followed by information urging guests to partner up with the hotel in preserving the environment. Finally, the last stated "Join your fellow citizens in helping to save the environment", which was followed by the text that the majority of hotel guests do reuse their towels when asked. The outcome of this research confirmed the idea behind this focus theory of normative conduct: Compared to the first three statements, the final (descriptive normative) card and its message increased towel re-use by an average of 28,4%. Thus it seems that peer influence can be a strong driver for change. Furthermore, Griskevicius et al. (2008) also notice the unawareness of, in this case, managers in charge of hotel conservation programs, as they do not seem to realize how effective a simple communication/marketing strategy based on peer influence can be.

The strength of peer influence is great according to this theory and people are often not aware of this. Therefore, a window of opportunity lies within this area, by incorporating the aspect of peer influence into communication strategies to change people's behaviour. An example in the field of sustainable food consumption could be referring to the numbers of consumers that buy sustainable food, instead of focusing on, for example, the importance of sustainability and nature conservation.

### ***3.3 Social media features vs. Consumer Behaviour theories***

In this chapter, an extended analysis of the social media features compared to the consumer behaviour theories is given, accompanied by possible solutions for the field of sustainable food consumption. In four tables (table 1 – 4) that are incorporated below, the interfaces are shortly described that are extensively described in this chapter. The interfaces can be placed at

different levels as not every consumer behaviour theory can be linked to social media features. In this case, the linkages are thus made more indirect or abstract. The reason for this method is that the indirect linkages can also contribute positively to a conclusion in the end and make it more extensive. Furthermore, the columns (i.e. features of social media) are more important than the rows (i.e. consumer behaviour theories), as social media is the driver for this research.

### 3.3.1 Participation is easy

This first feature is important in the beginning of a social media site, as it can have an influence on the actual joining process of users. According to the Rational Choice Theories (RCT), joining should be an easy process and this should also be clear to the possible users. Following the Expectancy-Value Theories (EVT), values are important in people's decision processes. Future participants might be restrained for joining social media about sustainable food consumption as it possibly does not match with one of their values. Easy participation could lower the threshold for this group of people to join, in case their values somewhat change. In the Morality Theories (MT), an important aspect is the user's possible recognition to provide relief. Finally, the Context and Knowledge Theories (CKT) are referring to the social influence. As table 1 shows, these theories state that people are (un-)consciously influenced by other people's actions or just by information about their actions. A possible opportunity for this social media feature might therefore be to refer to the number of people that joined the 'easy to participate' site already.

	Participation is easy	Participation tasks are highly granular	Participation is driven
<b>Rational Choice Theories</b>	<ul style="list-style-type: none"> <li>• Cost-benefit analysis: participating should not take too much effort;</li> <li>• Information is important: about possibility to join easily.</li> </ul>	<ul style="list-style-type: none"> <li>• Participants should be slowly informed about sustainable food consumption;</li> <li>• their contributions should slowly be stimulated over time.</li> </ul>	<ul style="list-style-type: none"> <li>• Within social network sites on sustainable food consumption, specific information about initiatives is given for participants;</li> <li>• for other visitors, briefly worded information should be given.</li> </ul>
<b>Expectancy-Value Theories</b>	<ul style="list-style-type: none"> <li>• Users are often restrained for joining due to personal, social or moral values → easy participation could lower the barrier to join a sustainable food consumption site;</li> <li>• stimulation of new user's social environment for joining social network site that is 'easy to join' can influence choice to actually join.</li> </ul>	<ul style="list-style-type: none"> <li>• If people have a positive belief about and attitude towards sustainable food consumption, they will participate more in a social media area;</li> <li>• for others, information about subject should be accompanied by themes that receiver finds more interesting.</li> </ul>	<ul style="list-style-type: none"> <li>• Active participants on the social network site should be driven to share their values and believes (positive towards sustainable food consumption) within their own social networks;</li> <li>• evaluations of participants about projects and site should be stimulated (to find focus point)</li> </ul>
<b>Morality Theories</b>	<ul style="list-style-type: none"> <li>• Possible new users should be informed about easy participation, which could trigger their recognition of the own ability to provide relief (e.g. help people consume sustainable food by sharing information)</li> </ul>	<ul style="list-style-type: none"> <li>• By offering the possibility to 'grow' into the social media network community, users can absorb more information each time (sponge effect), which could lead to awareness rising and ultimately to changing norms and values concerning consumption of sustainable food.</li> </ul>	<ul style="list-style-type: none"> <li>• Active participants could inform people within their own networks, whereby it should be promoted that they provide information about the problem (awareness raising), the responsibility and the possibility to provide relief.</li> </ul>
<b>Context and Knowledge Theories</b>	<ul style="list-style-type: none"> <li>• By providing information about easy participation new users could get attracted;</li> <li>• By creating context users could get attracted (e.g. triggering potential users by referring to the number of people who already joined, referring to users that are in the community already, saying it was easy to join)</li> </ul>	<ul style="list-style-type: none"> <li>• Context can be created for new users to become more active (e.g. referring to people who already are actively involved and their 'positive' experiences, using people with status);</li> <li>• Gradually give new users more information about other participants (preferably user's social environment) and their contributions.</li> </ul>	<ul style="list-style-type: none"> <li>• Creating context by showing a lot of examples of people's contributions and 'positive' behaviour towards sustainable food consumption;</li> <li>• administrators of such sites could suggest subjects and thereby try to let user's discuss about it within own social network sites.</li> </ul>

**Table 1** Social media features vs. consumer behaviour theories (1)

### 3.3.2 Participation tasks are highly granular

This feature is about the effort participants of social media sites are supposed to put into participating and about the amount of information these participants receive. It is recommended that in the beginning users are not expected to receive too much information, as according to the RCT this might scare them away. Furthermore, the contributions of the participants should be slowly stimulated over time and they should not have the idea that they are obliged to contribute a lot in the beginning; this might also scare them away from joining in the first place or participating according to the RCT. The EVT distinguishes the participants of a possible social media site for sustainable food consumption. According to these theories, participants who already have a positive belief about and attitude towards sustainable food will be active on such a social media site out of their own. Therefore, these theories focus on the others, as they are the ones that are likely to be consuming relatively less sustainable food. It is suggested that for this group, information about sustainable food should be accompanied by information they find more interesting. This can be difficult for sustainable food, as the group that should be 'reached' is very large and therefore there are a lot of different topics that an individual might find interesting (see table 1). A possibility is to refer to topics that are currently talked about on national scale. The Morality Theories concentrate on the positive effect of a highly granular participation system, as they suggest that this possibility to 'grow' into a social media network, users can absorb more information each time (sponge effect), which could lead to awareness rising and ultimately to changing norms and values concerning consumption of sustainable food. Again, too much information at the same time might scare participants away, even before they go through the process of awareness rising. Finally, the CKT suggest a possibility to raise the level of contributions of participants, as context could be created for new users to become more active. A possibility is to refer to people who already are actively involved and their 'positive' experiences or by using people with status. According to the Context and Knowledge Theories, this might lead to social influence, which could have a positive effect on the other participants' contributions. Furthermore, it is suggested to gradually give participants more information about other participants within the specific social media community and about participants who are also within their own social network outside the community.

### 3.3.3 Participation is driven

The participants of a specific social media sites should be driven on those sites to 'spread the message' within their own social communities. With this feature a larger part of the total number of users on a social media site can be reached. This can be reached by showing information on the 'home' site of those sites. The Rational Choice Theories suggest that within sustainable food consumption communities, specific information about initiatives is given. This can be more extensive for users that are within those communities already and for

potential new participants, it is recommended that the information is briefly worded. In this case, the latter group can quickly look for information about the subject without having to spend too much time and effort on the exploration of the subject and the community, as this might be a disturbing element. The EVT tends to focus on active participants on the social network site, as they should be driven to share their values and beliefs within their own social networks, as their beliefs and attitude about – in this case - sustainable food consumption is probably already positive. This might influence the subjective norm of people within their own social networks, which could have a positive effect on the choice making process (table 1). Furthermore, the Expectancy-Value Theories imply that participants' evaluations about projects and the site should be stimulated, in order to find a focus point for professionalizing and developing it. According to the MT, active participants should be driven to inform people within their own networks, whereby it should be promoted that they provide information about the problem (awareness raising), the responsibility and the possibility to provide relief (Norm Activation Theory, Value-Believe-Norm Theory). The CKT points to creating context by showing a lot of examples of people's contributions and 'positive' behaviour towards sustainable food consumption, which might lead to a positive social influence concerning the subject. Furthermore, it is implied to let participants discuss about proposed subjects within their own communities. This could strengthen the knowledge of those people about the topic (Alphabet Theory).

### 3.3.4 There is user 'equipotentiality'

This feature of social media is about the way in which such a site is structured, as it should be without hierarchical levels and every new user should have the idea that he or she can have an important role. Potential participants could be discouraged to join if they think that their role within a community can only be marginal. The RCT points to the space to become more involved in social network sites for new users as an important aspect of this feature. Also the benefits of a self-leading community might contribute to a more attractive look for potential new participants. The EVT suggests that information on social media sites should be accessible for everyone (i.e. not written for a certain specific target group) and in this way the largest group of potential users is available. If the group of actual participants is also a large variety, it could also have an influence on the subjective norm, as possible 'newcomers' could see that the site is participated by people with all different kind of backgrounds which strengthens the underlying thoughts (i.e. consuming sustainable food is 'a good thing'). Furthermore, the benefits of sustainable food consumption should be clearly stated for a large variety of participants (i.e. either psychological or social), which could then have an impact on their choice making process (Means-End Chain Theory). Morality Theory focuses on the moral side of the decision making. These theories imply that users need to get informed that their purchasing of sustainable food can help to reduce a threat (ascription of responsibility),

which should be understandable for all users as there is 'equipotentiality'. With this information people become aware that they are actually capable of helping to 'solve the problem' themselves. The feature also makes it possible to generate all four types of behaviour from the Value-Believe-Norm Theory (i.e. Activism, Non-activism in the public sphere, private-sphere environmentalism and organisational actions), as users 'equipotentiality' could lead to a wider acceptance of the topic and its underlying message. Finally, the CKT considers the role of persuasion. If people are aware of the fact that in the social media domain they are seen as equal, it is more probable that they ignore or underestimate the persuasive effect of those others might have on their choices. However, this social influence can play only a role when the participant is not aware that he or she is 'pressured' to change behaviour, as is showed in table 2 below.

### 3.3.5 Users have personal profiles

Another feature of social media is that participants have personal profiles. RCT suggests that on these profiles, users should be free to choose how much information they show about themselves, so that they can determine their own costs and benefits of placing the information. EVT makes it possible that by looking at individual profiles, it is possible to focus on individual identities which lead to certain choices in consuming sustainable food, and therefore provide information based on those profiles. This information can be fruitful for the further development of a social media site by looking at different focus points in the individual's decision process. Another opportunity of this feature, following EVT, is that participants can express their own opinions and evaluations through social media sites from their profiles, which can lead to a snowball-effect (i.e. social environment of participant can read the opinions and evaluations) if it are positive views. Morality Theories suggest that by having individual profiles it becomes easier to find personal norms. Based on these norms, an individual 'intervention' becomes possible, whereby problem awareness and ascription of responsibility should be focused on. Ultimately this could positively contribute to pro-social intentions and behaviour and therefore to more sustainable food consumption. Context and Knowledge Theories point to the opportunities of the information that can be possessed on personal profiles. With personal profiles, it becomes possible to look into people's demographics, values, beliefs and norms (Alphabet Theory). With this information it could become possible to create context. Although some of these findings might not correspond with other findings, in chapter 3.3 only the interfaces between each social media feature and each consumer behaviour theory group is given. In chapter 4, these findings will be discussed and possible findings that do not correspond will be discussed more extensively. Ultimately this should lead to a clear picture of where social media, consumer behaviour theories and sustainable food consumption come together.

	<b>There is user 'equipotentiality'</b>	<b>Users have personal profiles</b>	<b>Users make online connections</b>
<b>Rational Choice Theories</b>	<ul style="list-style-type: none"> <li>• Participants should have space to become more involved in social network site;</li> <li>• benefits of self-leading community important to attract new users.</li> </ul>	<ul style="list-style-type: none"> <li>• Participants should be free to choose how much information they put on their personal profile → they can determine their own costs and benefits for amount of personal information they put on their personal site.</li> </ul>	<ul style="list-style-type: none"> <li>• By offering the opportunity for users to make contact with others, users are able to get informed and to make 'rational' decisions concerning sustainable food consumption.</li> </ul>
<b>Expectancy- Value Theories</b>	<ul style="list-style-type: none"> <li>• As participants are 'equal', information on social media site should be accessible for everyone (i.e. not written for a certain specific target group);</li> <li>• benefits of sustainable food consumption should be clearly stated for a large variety of participants (i.e. either psychological or social)</li> </ul>	<ul style="list-style-type: none"> <li>• By looking at individual profiles, it is possible to focus on individual identities, which lead to certain choices in consuming sustainable food, and provide information based on those profiles;</li> <li>• individual profiles make it possible for participants to express their own evaluations through social media sites, which can become a snowball-effect.</li> </ul>	<ul style="list-style-type: none"> <li>• Online connections make it possible for a snowball-effect to engage → positive evaluations of online connections can lead to purchase by the participant's connections;</li> <li>• culture/identity of a participant might be influenced by social pressure (online connections), which could have a positive effect for sustainable food consumption.</li> </ul>
<b>Morality Theories</b>	<ul style="list-style-type: none"> <li>• If participants are equal, they need to get informed that their purchasing of sustainable food can help to reduce a threat (ascription of responsibility);</li> <li>• this feature can also lead to influence on all four behavioural outcomes of the VBN-theory.</li> </ul>	<ul style="list-style-type: none"> <li>• By having individual profiles, it becomes easier to find personal norms → based on these norms, an individual 'intervention' becomes possible, whereby problem awareness and ascription of responsibility should be focused on → could positively contribute to pro-social intentions and behaviour.</li> </ul>	<ul style="list-style-type: none"> <li>• If people are recommended to share their beliefs about sustainable food and the problem awareness behind it with their online connections, it can have a positive influence on the general problem awareness.</li> </ul>
<b>Context and Knowledge Theories</b>	<ul style="list-style-type: none"> <li>• If people are aware of the fact that in the social media domain they are seen as equal, it is more probable that they ignore or underestimate the persuasive effect of those others might have on their choices → social influence can play only a role when the participant is not aware that he or she is 'pressured' to change behaviour.</li> </ul>	<ul style="list-style-type: none"> <li>• With personal profiles, it becomes possible to look into people's demographics, values, beliefs and norms → context can be created by using that information.</li> </ul>	<ul style="list-style-type: none"> <li>• The most important aspects in the context en knowledge theories, are peer influence and interpersonal actions that change others people's attitudes, believe or behaviours → it is thus important that people can make online connections.</li> </ul>

**Table 2** Social media features vs. consumer behaviour theories (2)

### 3.3.6 Users make online connections

Perhaps one of the most logical features of social media sites is that it is possible for users to make online connections. On sites like Facebook or Twitter one of the most common things to do, next to posting status updates or thoughts by participants themselves, is to connect with other people on the social network. A point of contact between the Rational Choice Theories and this feature is the rational decision process, as by offering the opportunity for users to make contact with others, users are able to get informed and to make 'rational' decisions concerning sustainable food consumption. EVT suggests that online connections make it possible for a snowball-effect to engage, as positive evaluations of online connections can lead to the purchase of sustainable food by the participant's connections (i.e. subjective norm). Also, a user's culture or identity might be influenced by social pressure (i.e. through online connections), which could have a positive effect for sustainable food consumption. MT's interface with the possibility for users to make online connections lies in the possibility to spread problem awareness. If people are recommended to share their beliefs about sustainable food and the problem awareness behind it with their online connections, it can have a positive influence on the general problem awareness and the personal norms. For CKT, the most important aspects in the context of knowledge theories, are peer influence and interpersonal actions that change others' attitudes, beliefs or behaviours. For these aspects it is important that people can make online connections as this is the most straightforward way of 'getting to know what other people think or do'.

### 3.3.7 Users can join communities within social media sites

Within social media sites it is possible for users to join specific communities. This is an important feature as an initiative to improve sustainable food consumption could be promoted within a special sustainable food community. The Rational Choice Theories suggest that users are more likely to join a special sustainable food community if they are already interested in sustainable food consumption, as their benefits are higher in that case (i.e. the site corresponds with their ideas). For others, it should become clear what benefits they could have from joining the community. Furthermore, information is an important factor in the rational choice model, so information about the products' characteristics is important. With this information participants can make 'rational' decisions which are needed in order to have a positive (or negative) attitude towards sustainable food consumption. The interface between EVT and this feature is that through social media communities, product characteristics can be linked by users to desirable end-states of existence (i.e. values). That can thereafter be linked to physiological, psychological and social consequences. If these are positive, it might contribute to positive evaluations of the products and thus might have a positive effect on sustainable food consumption. Morality Theories suggest that within communities on social media sites, users can exchange information about the problem. In the case of sustainable food

consumption, people might exchange information about environmental problems, food provision problems in the future or taste of regular, 'non-sustainable' food. This could contribute to the spreading of problem awareness, which might have a positive effect on the process. Following the ideas of the Context and Knowledge Theories, it is more interesting to focus on social media users outside the special communities, as people within those communities are probably already positive about this type of food. An opportunity is to persuade people within these communities, preferably unnoticed, to inform within other communities that they are buying sustainable food. This could then lead to social influence, which according to CKT leads to behavioural change (i.e. more people buy sustainable food).

### 3.3.8 Users can communicate with online connections

A very common feature of social media is its opportunity to communicate with online connections. The difference between this characteristic and the feature about connecting with online connections is that the first focuses on the actual communication process whereas the latter only focuses on the possibility to connect with other people (e.g. 'become friends'). For RCT this social media feature is important for users to exchange information and therefore important for a sustainable food topic to be successful on a social media site. By communicating with his or her social environment, the user can provide information about the products' characteristics, which is important in the decision making process. The point of contact between this feature and the Expectancy-Value Theories lies in the domain of the subjective norm, as in the TPB and TRA, the subjective norm is an important aspect and other people's beliefs about sustainable food can easily be disseminated through online connections. Furthermore, 'positive' societal beliefs about sustainable food could be communicated through online connections and their communications. MT's interface with the communication aspect between online connections can be found in the problem awareness aspect, as the problem awareness of the Norm Activation Model can be passed on through communication of users with online connections. People can also communicate their ecological worldview, awareness of consequences and ascription of responsibility with online connections, which could contribute to more pro-environmental behaviour (Value-Believe-Norm Theory). CKT suggests that norms, values, beliefs, knowledge, information and context can be communicated by users to other people, which could have an effect on other users' habits and eventually their behaviour (Alphabet Theory). Another aspect is the social influence, as participants could disseminate their actions and behaviour through online communications, which could contribute to social influence in a positive way for sustainable food consumption. All these interfaces are also shown in table 3 below, whereby every point of contact between the consumer behaviour theories and the former two and next social media features are shortly described point by point.

	<b>Users can join communities within social media sites</b>	<b>Users can communicate with online connections</b>	<b>Information search is possible</b>
<b>Rational Choice Theories</b>	<ul style="list-style-type: none"> <li>• Users are more likely to join a special sustainable food community if they are already interested in sustainable food consumption, as their benefits are higher in that case;</li> <li>• Information is an important factor in the rational choice model, so information about the product's characteristics is important.</li> </ul>	<ul style="list-style-type: none"> <li>• Again, this social media feature is important for users to exchange information and therefore important for a sustainable food topic to be successful on a social media site;</li> <li>• By communicating with a user's social environment, he or she can provide information about the products' characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>• There should be elaborated information about sustainable food (e.g. tastes and related preferences, social costs and benefits, products' characteristics) available which users can search for in order to make a decent cost-benefit analysis.</li> </ul>
<b>Expectancy-Value Theories</b>	<ul style="list-style-type: none"> <li>• This theory suggests that through social media communities, product characteristics can be linked by users to desirable end-states of existence (i.e. values) → linked product attributes to physiological, psychological and social consequences → If positive, this might contribute to positive evaluations of the products.</li> </ul>	<ul style="list-style-type: none"> <li>• In the TPB and TRA, the subjective norm is an important aspect → other people's beliefs about sustainable food can easily be disseminated through online connections;</li> <li>• 'Positive' societal beliefs about sustainable food can be communicated through online connections and their communications.</li> </ul>	<ul style="list-style-type: none"> <li>• Through information searches, users should be able to find information about valuable features of the MEC model (e.g. values, desired and undesired consequences, perceptions);</li> <li>• Again, subjective norms (TRA, TPB) should be findable through information searches.</li> </ul>
<b>Morality Theories</b>	<ul style="list-style-type: none"> <li>• Within communities on social media sites, users can exchange information about the problem (e.g. environment, bad taste) → problem awareness;</li> <li>• Information could be exchanged about the negative consequences of buying regular food instead of sustainable food.</li> </ul>	<ul style="list-style-type: none"> <li>• The problem awareness of the NAM can be passed on through communication of users with online connections;</li> <li>• People can communicate their ecological worldview, AC and AR with online connections, which could contribute to a more pro-environmental behaviour.</li> </ul>	<ul style="list-style-type: none"> <li>• An information search for information about the problem behind unsustainable or 'regular' food should be possible;</li> <li>• Information about consequences of non-sustainable behaviour should be findable.</li> </ul>
<b>Context and Knowledge Theories</b>	<ul style="list-style-type: none"> <li>• As people in possible sustainable food communities are probably already positive about this type of food, the focus should be outside these communities → people within these communities should be, preferably unnoticed, persuaded to inform within other communities that they are buying sustainable food.</li> </ul>	<ul style="list-style-type: none"> <li>• Norms, values, beliefs, knowledge, information and context can be communicated by users to other people, which could have an effect on other users' habits and eventually their behaviour;</li> <li>• Through online communications, users' actions and behaviour could contribute to social influence.</li> </ul>	<ul style="list-style-type: none"> <li>• Information seeking and knowledge are very important in the Alphabet Theory, so an information search could definitely contribute according to this theory;</li> <li>• Information about other people's behaviour and actions should be available (focus theory of normative conduct).</li> </ul>

**Table 3** Social media features vs. consumer behaviour theories (3)

### 3.3.9. Information search is possible

Within social media sites it is possible for users to find, among other things, other users, opinions, messages, videos. Following the Rational Choice Theories, there should be elaborated information about sustainable food (e.g. tastes and related preferences, social costs and benefits, products' characteristics) available which users can search for in order to make a cost-benefit analysis. This can take place if there are existing topics, discussions, videos or forums about sustainable food and all that it entails. The interface between EVT and the information search possibility lies within the underlying thoughts about sustainable food. Through information searches, users should be able to find information about valuable features of the Means-End Chain Model, such as values, desired and undesired consequences and perceptions. This could influence the decision process of users towards more sustainable food consumption, although the found values, consequences and perceptions should then be positive. In line with this is the subjective norms (Theory of Reasoned Action, Theory of Planned Behaviour) should be findable through information searches. Morality Theories suggest that an information search for information about the problem behind unsustainable or 'regular' food should be possible, as this could raise awareness when people are searching for those problems. Therefore, also information about consequences of non-sustainable behaviour should be available in order to raise ascription of responsibility. Within the Context and Knowledge Theories the Alphabet Theory confirms the importance of information seeking and knowledge possibilities, so the information search hereby can be very useful. Furthermore, information about other people's behaviour and actions should be available, to comply with the Focus Theory of Normative Conduct. It must be noted that the points of contact between the information search feature and the consumer behaviour theories are not very specific and tend to refer to possible forums, topics that are discussed and other communication platforms that can be found with the actual information search. The only theory that gives information seeking an important place within consumer behaviour and behavioural change is the Alphabet Theory.

### 3.3.10 Users get 'attracted'

Social media sites often have a built-in system to attract new users or to let existing users spent more time on the site. RCT suggests that (potential) users are provided with information (or commercials) that make it possible that users outweigh the benefits against the costs for buying sustainable food. Following the Expectancy-Value Theory, users should be attracted to the social media site for 'signing in' and 'returning' by luring them with relevant and desired consequences that comply with the users' more general values. Of course these consequences should stroke with reality and they should be supported by a relatively large group of users. The interface of this feature and MT begins with problem awareness, as users should be attracted to the social media site for 'signing in' and 'returning' by luring them with

information about the problem, which need to get high priority. After this, a follow-up story about ascription of responsibility or outcome efficacy is preferable. The CKT suggests that (potential) participants should receive information about the behaviour of people within their social networks concerning, in this case, sustainable food consumption, which might lead to social influence (Focus Theory of Normative Conduct). Herein the role of designating messages also plays a role (e.g. 'like' a message), because if a relatively large group of users would 'like' a message that is positive towards sustainable food, it might lead to social influence.

### 3.3.11 Open for external programs

The final feature of social media that was given contains the possibilities of within the larger sites to connect to one another and furthermore connect with other external applications. The first aspect can have a positive effect on the outcome of the Rational Choice Theories, as participants could share information about benefits (or costs) concerning a topic on several social media platforms at the same time, reaching a wider audience. If the benefits that are shared then have the upper hand compared to the costs, it has a positive effect on, in this case, sustainable food consumption. RCT suggests to create an Application Programming Interface (API) on which users of social media can find information about costs and benefits of sustainable food consumption and a platform for discussing about it. The interface between EVT and this feature lies in the widely connected network of people with a possible positive attitude towards sustainable food consumption. This can be important in the dissemination of relevant and desired consequences and the overall societal norms and values, which can contribute to a more positive attitude towards sustainable food consumption from users who were not that interested in the topic before. An API enables it to let users on social media sites join a sustainable food page or program, which then is visible for all their friends. This could lead in the end to a change in the subjective norm and people's attitude and intentions towards sustainable food consumption (i.e. if 'friends' views are positive). For the Morality Theories, the same applies as was the case for the Expectancy-Value Theory: A wider network can make sure the problem awareness among the general users grows, which ultimately might have a positive influence on pro-sustainable food consumption behaviour and thus pro-environmental behaviour. Again, an API could contribute to this occurrence, as it widens the public. For the Context and Knowledge Theory, the openness of social media for external programs is very important, as it is important that the network is as big as possible, in order to let societal influence and peer influence dynamics be successful. Furthermore, a more diversified group of users can help the message of sustainable food to be more supportive. For a summary, see table 4 below.

	<b>Users get 'attracted'</b>	<b>Open for external programs</b>
<b>Rational Choice Theories</b>	<ul style="list-style-type: none"> <li>• This feature can be applied with the Rational Choice model by providing information/commercials that make it happen that users' outweigh the benefits against the costs for buying sustainable food.</li> </ul>	<ul style="list-style-type: none"> <li>• By being connected on several social media sites, it is possible for a sustainable food site to reach more people to share the benefits and costs of consuming sustainable food.</li> </ul>
<b>Expectancy-Value Theories</b>	<ul style="list-style-type: none"> <li>• According to the Expectancy-Value Theory, users should be attracted to the social media site for 'signing in' and 'returning' by luring them with relevant and desired consequences that comply with the users' more general values.</li> </ul>	<ul style="list-style-type: none"> <li>• A widely connected network of people with a positive attitude towards sustainable food consumption can be important in the dissemination of relevant and desired consequences and the overall societal norms and values, which can contribute to a more positive attitude towards sustainable food consumption from users who were not that interested in the topic before.</li> </ul>
<b>Morality Theories</b>	<ul style="list-style-type: none"> <li>• According to the Morality Theories, users should be attracted to the social media site for 'signing in' and 'returning' by luring them with information about the problem, which need to get high priority. After this, a follow-up story about ascription of responsibility or outcome efficacy is preferable.</li> </ul>	<ul style="list-style-type: none"> <li>• For the Morality Theories, the same applies as was the case for the Expectancy-Value Theory: A wider network can make sure the problem awareness among the general users grows, which ultimately might have a positive influence on pro-sustainable food consumption behaviour and thus pro-environmental behaviour.</li> </ul>
<b>Context and Knowledge Theories</b>	<ul style="list-style-type: none"> <li>• According to the Context and Knowledge Theories, users should be attracted to the social media site for 'signing in' and 'returning' by luring them with information about the behaviour of people within their social networks concerning, in this case, sustainable food consumption.</li> </ul>	<ul style="list-style-type: none"> <li>• Especially for the Context and Knowledge Theories it is important that the network is as big as possible, in order to let societal influence and peer influence dynamics be successful;</li> <li>• Furthermore, a more diversified group of users can help the message of sustainable food to be more supportive.</li> </ul>

**Table 4** Social media features vs. consumer behaviour theories (4)

By linking all given features of social media in chapter 3.1 with the consumer behaviour theories in chapter 3.2 and applying these interfaces to sustainable food consumption, a preliminary conclusion can be made about the possibilities of social media concerning sustainable food consumption, based on the consumer behaviour theories. Therefore, in chapter 4 a conclusion part will summarise the analysis from chapter 3.3.

## **4 Conclusion and Discussion**

In this fourth chapter the beginning consists of a summary of this research, concerning the answering of the general and specific research questions that were posed in the beginning. Finally, recommendations for further research, a discussion about the methodology and limitations will be given, before the final conclusion.

### **4.1 *Summary***

In this explorative research the goal was to find out how social media can be used to stimulate sustainable food consumption in Western societies. In other words, what features of social media could help in changing consumer behaviour towards more sustainable behaviour? Thereby, consumer behaviour theories were used to explain those possibilities and to look for more transparency within the field of social media. To come to this goal, there was a general research question (GRQ) and two specific research questions (SRQ). These latter two were incorporated to come to an answer on the first.

The first SRQ was about what specific features of social media are important to change consumption patterns towards more sustainable behaviour. In chapter 3.1 there were eleven features selected, derived from a variation of literature about social media. The eleven features were the following:

1. Participation is easy;
2. Participation tasks are highly granular;
3. Participation is driven;
4. There is user 'equipotentiality';
5. Users have personal profiles;
6. Users make online connections;
7. Users can join communities within social media sites;
8. Users can communicate with online connections;
9. Information search is possible;
10. Users get 'attracted';
11. Open for external programs.

These specific features of social media are important to know, in order to have a valid conclusion, whether consumer behaviour theories (models) are useful and if so, in what way social media could be used to stimulate consumption patterns towards more sustainable behaviour. To come to this aspect, first the second SRQ has to be incorporated, to see what consumer behaviour theories might help in explaining the possibilities of social media to

stimulate sustainable consumption in Western societies. The question concerned the consumer behaviour theories that can be useful in the domains of social media and sustainable food consumption, and how? In chapter 3.2 several consumer behaviour theories were discussed and in chapter 3.3 they were linked to the social media features. The consumer behaviour theories were bundled in four groups to make it more clarifying in the analysis part. The four different groups that were bundled are:

1. Rational Choice Theories (RCT):
2. Expectancy-Value Theories (EVT):
3. Morality Theories (MT):
4. Context and Knowledge Theories (CKT):

The research showed that RCT concentrates mainly on consumers' consideration of costs and benefits, based on their level of information (i.e. knowledge). In the EVT a beginning is made with social influence (i.e. subjective norm in Theory of Reasoned Action and Theory of Planned Behaviour) as an important feature of consumer behaviour. The MT focuses on pro-social and pro-environmental intentions and behaviour, including moral feelings. Finally, in the CKT the context becomes important together with the effect of social influence. The latter one is the most psychological one (especially the Focus Theory of Normative Conduct), as it focuses on people's (unintended/unnoticed) openness to get influenced. The Alphabet Theory also takes into account several features that were also given in some other theories, (e.g. knowledge, values, believes, norms and habits).

Based on the analysis of social media features linked with consumer behaviour theory concerning sustainable food consumption, some conclusions can be made to answer the general research question, which stated: how can social media be used to stimulate sustainable food consumption in Western societies? With all the previous information a preliminary answer on this question can be given. The research revealed that it is recommendable to use more than one consumer behaviour theory and to make sure, if applicable, that all eleven social media features are executed. By applying the theories to social media the way that is described below, 'supporters' of sustainable food consumption (e.g. governments, non-profit organisations, individuals) take a big step towards a favourable situation wherein consumer behaviour changes towards more sustainable behaviour. This is a unique outcome of this research, as there have been no known researches done on the usefulness of social media to promote consumption patterns towards more sustainable ones, based on consumer behaviour theories.

For people who are new on a social media site, it is important that joining pages (or communities etc.) about sustainable food (consumption) is easy. Based on the consumer

behaviour theories, this feature lowers the barrier for potential participants to join. When they actually join they should slowly be stimulated to be more active on the page or within a community and they should not be forced to be active.

Also information about other subjects than sustainable food hereby might help to ‘catch’ the participant’s interest and to stimulate him or her to be more active. Furthermore, the slow introduction of participants within sites or communities can let them absorb a little bit more information each time, which is important on the longer term, in order to come to behavioural change towards more sustainable food consumption. Another point that can be made is that there have to be references towards other participants or community members and the amount of members. This stimulates social influence and when it is done in a way that potential users do not have the feeling that they are ‘getting influenced’, they unintentional get influenced by the notion of other people acting in a certain way.

About the way in which texts are written on pro-sustainable food sites or within communities, it is important that information is written for a large audience and not specific for ‘connoisseurs of sustainable food’. For the dissemination of information about, evaluations of, and personal actions concerning (etcetera) sustainable food consumption, the research showed that it is important that participants of social media have personal profiles, they can make online connections, and they can communicate with those online connections. This is important for dispersing information, for social (peer) influence to happen and to generally make the subject more known (i.e. problem awareness) and accepted.

Sustainable food communities should not be closed communities, but they should be open and clear. Furthermore, participants within those groups should be stimulated to share information about sustainable food and about the fact that they use it (and how). They can share the information within their own social networks (face-to-face) or within other communities or networks on social media sites.

Another feature of social media is that within the sites, it is possible to do an information search. Participants should be able to find information about sustainable food through a search. This can be done by having a page or community for people who are interested in the subject, on which information can be found about the subject (e.g. known facts, users’ opinions, forums, regular updates with news concerning the topic). The next feature is about ‘attracting’ users, whereby it is important that they don’t have the idea that it is expected that they change their behaviour by ‘feeding’ them with information about the environment and the effects of consuming regular food. The research revealed that information about behaviours and actions of people who already consume sustainable food works better in order

to let social pressure dynamics happen for participants who are no ‘sustainable food-users’ yet.

Finally, the research made it clear that the feature that social media sites are open for external programs can be helpful in stimulating the consumption of sustainable food. Connection between several social media sites makes dissemination of information easier and adding external programs to a sustainable food page, makes it possible to disperse information in other ways (e.g. FarmVille, Youtube movies). This increases the acceptance of receiving the information and could lead to a quicker behavioural change of Western European consumers towards more sustainable food consumption. Furthermore, the research revealed that if participants know that the information is being exchanged between several social media sites and programs, they are more accessible for behavioural change (through social influence), as it means that more people are involved with (or even committed to) the topic sustainable food.

## **4.2            *Implications***

The research was to give an insight into the possibilities of social media in stimulating sustainable food consumption in Western European countries, concerning consumer behaviour theories. By means of using a variation of known literature on social media and consumer behaviour theories, a preliminary answer could be given to the general research question and the specific research questions, which made it possible to reach the research objective. However, as it is a preliminary research, this discussion section should give some insight into possible improvements or points of interest for future research (i.e. follow-up research).

### **4.2.1            *Implications for research***

Possible follow-up research might be a quantitative investigation on the outcomes of this research, to see if the presented analysis is accurate for users of social media. In other words, are consumer behaviour theories also applicable for social media in practice? That is a question that can be answered with follow-up research, as this research was purely focusing on known features of social media and how consumer behaviour theories could explain those features or how those theories could be applicable. This research can be seen as a first step into a detailed investigation of the usefulness of social media concerning the stimulation of sustainable food consumption. An more specific follow-up research could be a pilot project, in which all features of social media and the linked features of consumer behaviour theories that were used in the research are used to set up a sustainable food page on several social media sites, although it might be difficult to do research on the social dynamics effects of such a project. New participants should be monitored and a questionnaire could give an

insight into the effects. Nevertheless, before a pilot-project can be done, it must be clear that the findings in this research apply to social media sites.

#### **4.2.2 Implications for practice**

As this preliminary research revealed, there are definitely opportunities in social media concerning consumer behaviour in sustainable food consumption. First of all, a central sustainable food page on social media sites should make the dissemination of information about the subject more accessible and the information should be scientifically based, although the scientific information should be readable for a wide variety of consumers, so it needs to be changed into a more understandable language. Then, preferably all eleven features of social media that were described in the research should be added to that page, together with the features of consumer behaviour theories. When regularly updated and with active participants, this should lead to the stimulation of sustainable food consumption among users of the sustainable food page and possible even among their personal social networks (on social media sites and/or in real life). Based on the outcomes of the research, it seems most applicable to focus on the biggest social media sites at the moment (i.e. Facebook, Twitter), as these sites already have an amount of members (and thereby possible participants) to such a degree that it should be sufficient to have an influence on the promotion of sustainable food consumption. Furthermore, if resources are limited, the focus on some specific social media sites contributes a more up-to-date sustainable food page, which is important.

#### **4.3 Limitations**

The choice for the used social media features could be questioned as eleven features might seem as insignificant. However, the used features are chosen, based on the literature that was available. It has to be noticed that there is currently not a surplus of scientific research about social media, which made the available literature more limited. The phenomenon of social media grew exponentially over the last couple of years but it is actually still a relatively new discovery. Therefore, the next couple of years there will probably become more information available about social media, its features, and its effects. For this research the available literature was used, but it might be that in several years this information is out of date. However, it is to be expected that most of the conclusions will still be applicable in several years, as it is grounded by consumer behaviour research done for more than thirty years. The packaging may become different, but the content is expected to stay the same.

The next step and the accompanying method contained the selection of several consumer behaviour theories, based on research on a large amount of theories, whereby the ones that seem most applicable to social media are used. The methodology might be seen as a limitation

is this study, as it could not specifically be applicable to social media and it could not even be clear if the theories apply to social media at all. However, the research objective was to do a preliminary research and the chosen methodology made this possible, as a wide variety of consumer behaviour theories (i.e. from more attitude-oriented towards more psychological) has given a clear insight into what aspects of those theories are useful for the stimulation of sustainable food through social media. These theories were bundled into four different groups, as the theories within each group have several similarities. Furthermore, it contributed to a more clarifying analysis section, as a link between every single used consumer behaviour theory and each social media feature would have made the analysis unclear. Future research could be done about social media-specific aspects within consumer behaviour theories that include the social media dynamics (i.e. the effects of social media on consumer behaviour through online social media sites and within personal networks). Even more specific, it could be applied to the market of sustainable food products.

The final chapter of the analysis section linked the social media features with the consumer behaviour theories. Based on the findings in chapters 3.1 and 3.2 a large matrix was made for all eleven social media features linked with the four consumer behaviour theory groups. The features were clear enough to connect them with the theories, as there were a lot of interfaces. To repeat the research objective, the goal was to get a preliminary insight into the possibilities of social media to stimulate sustainable food consumption, grounded by consumer behaviour theories. This makes the research a more personal one, as it is not possible to examine the outcomes by invalidating them with absolute numbers. The research is meant as a first indication of the possibilities of social media for the topic as it is not claimed to be the exact truth. Hopefully the research turns out to be useful in future research wherein social media dynamics and consumer behaviour come together.

#### **4.4        *Final conclusion***

Social media is a relatively new possibility through which sustainable food consumption can be promoted. The correct use of the eleven features of social media that were described in this research is important with respect to the promotion, as this contributes to a favourable situation wherein consumer behaviour changes towards more sustainable behaviour. The use of consumer behaviour theories thereby is an important aspect, as it directs the ‘message’ of social media sites that promote sustainable food consumption. This is a unique outcome of this research, as there have been no known researches done on the usefulness of social media to promote consumption patterns towards more sustainable ones, based on consumer behaviour theories. Further research should clarify the applicability of the outcomes and the effects.

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## Appendix 1: Example of NEP model

Do you agree or disagree <sup>b</sup> that:	SA <sup>c</sup>	MA	U	MD	SD	(N)	$r_{i-t}$
1. We are approaching the limit of the number of people the earth can support	27.7%	25.2%	21.0%	16.0%	10.0%	(667)	.43
2. Humans have the right to modify the natural environment to suit their needs	4.1	28.5	9.2	33.9	24.3	(663)	.35
3. When humans interfere with nature it often produces disastrous consequences	44.6	37.6	4.0	11.2	2.5	(668)	.42
4. Human ingenuity will insure that we do NOT make the earth unlivable	7.8	23.5	21.5	24.4	22.7	(664)	.38
5. Humans are severely abusing the environment	51.3	35.3	2.6	9.3	1.5	(665)	.53
6. The earth has plenty of natural resources if we just learn how to develop them	24.4	34.8	11.3	17.5	11.9	(663)	.34
7. Plants and animals have as much right as humans to exist	44.7	32.2	4.7	12.8	5.7	(665)	.46
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations	1.1	7.4	11.3	30.9	49.4	(664)	.53
9. Despite our special abilities humans are still subject to the laws of nature	59.6	31.3	5.4	2.9	0.8	(664)	.33
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated	3.9	17.9	13.8	25.9	38.5	(665)	.62
11. The earth is like a spaceship with very limited room and resources	38.0	36.3	7.5	13.4	4.8	(664)	.51
12. Humans were meant to rule over the rest of nature	13.5	20.4	8.2	23.9	34.0	(661)	.51
13. The balance of nature is very delicate and easily upset	45.9	32.8	5.9	14.1	1.4	(665)	.48
14. Humans will eventually learn enough about how nature works to be able to control it	3.2	20.1	24.2	27.9	24.6	(666)	.35
15. If things continue on their present course, we will soon experience a major ecological catastrophe	34.3	31.0	16.9	14.1	3.6	(667)	.62

<sup>a</sup>Question wording: "Listed below are statements about the relationship between humans and the environment. For each one, please indicate whether you STRONGLY AGREE, MILDLY AGREE, are UNSURE, MILDLY DISAGREE or STRONGLY DISAGREE with it."

<sup>b</sup>Agreement with the eight odd-numbered items and disagreement with the seven even-numbered items indicate pro-NEP responses.

<sup>c</sup>SA = Strongly Agree, MA = Mildly Agree, U = Unsure, MD = Mildly Disagree, and SD = Strongly Disagree.