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Enabling behaviour change

- Community-based social marketing strategy in Malmö

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Summary

Our planet is faced with enormous challenges as the extreme weather events related to the human-caused climate change continue to gain strength. The scale of the problem has made changing human behaviour the central focus of sustainable development, and both public and private sector are expected to gain relevant expertise and introduce this work in their agenda.

Over its 40-year history, social marketing has become an established field providing tools for social change, but compared to health promotion, sustainability has not been a major focus of social marketing research so far. At the same time, sustainable lifestyles are embedded in complex systems where both individual factors and those of physical and social environment play a defining role in their adoption. Communities are a good example of such environments, and they became the key focus of Community-Based Social Marketing, which combines different insights from psychology to suggest a step-by-step framework for crafting behaviour change campaigns. However, it has not been applied to larger and diverse communities, like cities, and has not focused on sustaining new behaviour over time, which is crucial for creating sustainable lifestyles. Therefore, there is a need for empirical insights about long-term social marketing campaigns that aim to promote sustainable behaviour on a whole-city scale.

The aim of this project is with the help of multidisciplinary research and Social Practice Theory to explore the role of various enabling factors of pro-environmental behaviour change in a big community setting. The project includes a case study of the long-term campaign, which has been run in the municipality of Malmö to encourage city residents to sort their food waste. The research has flexible design and builds on literature review and multiple sources of empirical evidence – semi-structured phone and personal interviews and secondary data. Narrative analysis of the empirical data is conducted with the help of theories and conceptual framework.

The results indicate that behaviour change campaigns in big communities employ a variety of enabling factors. Firstly, infrastructure, political support and choice editing can be of help to get community members started with a new behaviour, especially when there are many barriers to it and convenience is appreciated. Secondly, to increase engagement in the behaviour, information campaigns and marketing techniques can be used, since they have potential to provide education and skills, raise awareness and create attractive propositions and images. Finally, social relations and contextual factors should not be underestimated. People are constantly affected in their communities, and can similarly affect others by becoming ambassadors for the behaviour.

Working with behaviour interventions in big and diverse communities is not an easy task. Compared to controlled experiments and short-term campaigns, it requires incessant application of a wide array of tools. The border between upstream and downstream social marketing approaches needs to be erased since they can effectively complement each other. The appreciation of the community complexity and of a great variety of intervention approaches can enrich social marketing work and produce campaigns that enable behaviour change to ensure sustainable future.

Sammanfattning

Vår planet möter enorma hållbarhetsrelaterade utmaningar som har sin grund i mänskliga aktiviteter. Problemen vi står inför är kopplade till mänskligt beteende i såväl privat som offentlig sektor. Insikten om problemens vidd och svårigheten med vilken vi kan finna lösningar har givit hållbarhetsrelaterade frågor som handlar om förändring av beteende en central plats i den politiska dialogen.

Social marknadsföring utgör ett relativt ungt forskningsområde som ger en teoretisk ram för att studera samhällsutmaningar inom till exempel folkhälsa och miljömedvetenhet. Här är hållbar utveckling ett nytt applikationsområde. Problembilden för projektet utgörs av en kommun inom vilken komplexa samband påverkar kommuninvånarnas livsstilsval som är relaterade till sophantering. Social marknadsföring utgör en lämplig ram för att studera ett socialt marknadsföringsprogram där kampanjer utgör något av en stegvis process som syftar till att påverkan kommuninvånares vardagsbeteende. Modellen har inte tidigare används i projekt som har en så stor skala, eller som har en så komplex problembild som hållbar utveckling innebär.

Syftet med projektet är att, med hjälp av ”social practise theory” förklara faktorer som utgjorde förutsättningar för en positiv förändring i beteenden hos kommuninvånare med avseende på miljöaspekter i sophantering i hemmet. Forskningsprojektet är en delstudie i en långsiktig politiskt förankrad miljösatsning i Malmö kommun. Forskningsprojektet har en abduktiv ansats i vilken litteraturgenomgång och empiriska studier varvas. Metoden för datainsamling är flexibel, vilket innebär att skriftliga underlag och intervjuer integreras i analysen. Intervjuerna är semistrukturerade telefon och i person-möten som genomfördes under våren 2015. Det empiriska materialet analyseras i en narrativ analys med medvetenhet om en kontextuell förankring.

Resultaten pekar på att beteendeförändringar hos kommuninvånare förklaras med ett antal sammankopplade faktorer. De främsta faktorerna i studien utgörs av: befintlig infrastruktur, politiskt stöd och direkt beslutspåverkan. För att motivera beteendeförändringar har ett viktigt moment i kampanjen varit att höja medvetenheten om miljöfrågor i allmänhet och sophantering samt energi i synnerhet i en social, politisk lokal kontext. Här har informationsteknik och utbildning spelat en central roll för att för att skapa motiv för att förändra beteenden. Till den befintliga infrastrukturen räknas bland annat sophantering i praktisk bemärkelse, att sophanteringen fungerar i kommuninvånares vardagsliv. Sist, men inte minst visar studien att den sociala dimensionen är mycket viktig; här blir en ambassadör, en bärare av budskap och värdering, viktig för att leda vägen för beteendeförändringar.

Att arbeta med beteendeförändringar i en vardagssituation är en stor utmaning. Till skillnad från experiment och reklamkampanjer är effekterna diffusa och ibland indirekta. Det förutsätter en uppsättning indikatorer och metoder för att förstå mekanismen bakom förändringar i motivbild som kan leda till förändrat beteende. Projektet pekar på behovet att arbeta med förutsättningar för beteendeförändringar både ”uppåt”, till aktörer som erbjuder tjänster och produkter, och ”nedåt”, till kunder, i det här fallet kommuninvånare. Med social marknadsföring som utgångspunkt pekar studien på ett stort antal möjligheter för kommuner att påverka sina kommuninvånare som en del av ett trovärdigt arbete för hållbar utveckling.

Abbreviations

CBSM – Community-Based Social Marketing
Social marketing approach that appeared in response to the failure of information intensive campaigns and of purely economic motives to change behaviour. It attempts to utilize current insights from psychology in order to build effective strategies for behaviour change in communities (McKenzie-Mohr & Schultz, 2014; McKenzie-Mohr, 2000).

CSR – Corporate Social Responsibility
It "*is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large"* (Holme & Wats, 1999:1).

MKB – Malmö Kommunala Bostads (Malmö Municipal Housing)
One of the case organisations – MKB Fastighets AB is a municipality owned housing company, one of the biggest in Sweden and the biggest in Malmö (MKB, 2015).

SPT – Social Practice Theory
Rooted in the works of Bourdieu, Giddens, Schatzki and others, the theory suggests that individuals and their environments are in reciprocal relationships with each other (Shove *et* al., 2012; Reckwtiz, 2002). It also explains human actions as embedded in social practices – shared routinized human activities (Warde, 2005; Reckwitz, 2002).

VA SYD – Vatten och Avlopp Sydvästra Skåne (Water and Sewage South West Skåne)
One of the case organisations – a utility company that takes care of water and waste treatment for more than 500 000 people in the South West Skåne (VA SYD, 2 , 2015).

Table of Contents

1 Introduction

Our planet is faced with enormous challenges as the extreme weather events related to the human-caused climate change continue to gain strength (IPCC, 2014). According to Stockholm Resilience Centre, this is only one of the four planetary boundaries that have been recently crossed, since our actions have also had a devastating effect on land systems, water sources and biodiversity (Steffen *et al*., 2015). Accordingly, the global community has responded by setting new policy priorities, and the first Sustainable Development Goals have been proposed and are being finalized now (UN, 2014). Such constructive dialogues have triggered many positive trends, among which is an increased interest among governments and Non-Governmental Organisations in awareness campaigns and sustainability education (Buckingham, 2014; UNESCO, 2015); and accelerating attention to Corporate Social Responsibility (**CSR**) among businesses (Winston, 2014).

However, these two trends might not be sufficiently effective amidst the looming sustainability challenges. Despite their success in increasing people's knowledge, the public actors generally fail to affect lifestyles, as awareness and attitudes do not necessarily lead to actions (Carrington *et al*., 2014; McKenzie-Mohr & Schultz, 2014). The private sector has even more problems to consider. Externally, **CSR** has come under great scrutiny of various stakeholders for failing to address the fundamental flaws of consumerism, which has resulted in no improvements whatsoever in the activities with major environmental impacts (Peattie & Peattie, 2009). Even well-intentioned green innovations often end up short-sighted because of the rebound effect that offsets their positive features – people just buy or use it more frequently (McKenzie-Mohr & Schultz, 2014; Csutora, 2012). Internally, many business leaders have started to realize that their products have impacts not only upstream, but also at the use stage, and thus depend significantly on consumers' habits (*e.g.* Levi Strauss&Co, 2015; P&G, 2015).

All these signs indicate that changing human behaviour is becoming the central focus of sustainable development, and both public and private sector are expected to gain relevant expertise and introduce this work in their agenda. This chapter introduces social marketing as an effective behaviour change tool, as well as outlines theoretical gap in the field and empirical relevance of this study. Aim, delimitations and outline of the study are presented.

1.1 Problem background

By consulting behavioural sciences and sociology, marketing has already developed substantial understanding of decision-making processes, which has allowed it to repeatedly shape wants and behaviour of people (Kotler, 2011; Alvesson, 1994). However, the discipline has been operating under the assumptions of limited responsibility and infinite resources, which cannot hold any longer. In contrast, another form of marketing, which aims to apply the conventional toolbox to solve societal problems, is growing fast (Peattie & Peattie, 2009). Since social marketing was coined more than 40 years ago (Kotler & Zaltman, 1971), it has become well established, and it is seen as the key to achieving social change by affecting personal behaviours (Beall *et al*., 2012).

In spite of remarkably developed research and practice in the field, social marketers still have not reached the potential required for effective behaviour change work (McKenzie-Mohr & Schultz, 2014; Wymer, 2011). The major reason is that by emphasizing traditional marketing tools and information campaigns, they have overestimated the power of targeting individual

behaviour, which in fact has a limited effect on actual change (Cherrier & Gurrieri, 2014). This is mainly because factors of the external environment influence consumer choices and actions, and without altering them, no transition is possible (Gordon, 2013). Furthermore, inspired by neo-institutional theories, the recent studies show that individuals and environments constantly affect each other shaping social practices (Shove *et al*., 2012), and the key to changing human behaviour is in the dynamic system of these interactions (Cherrier & Gurrieri, 2014).

Understanding such interactions is especially important for working with sustainable lifestyles. Compared to health promotion, sustainability has not been a major focus of social marketing research so far (Beall *et al*., 2012). On the one hand, these two fields have some similarities; for example, adoption of them by people highly depends on available infrastructure, regardless of whether it is cycling or non-smoking (Gordon, 2013). On the other hand, sustainable lifestyles have challenging differences. Firstly, they are generally seen as not normal in the society, but rather as radical, and people tend to imitate the majority (Rettie *et al*, 2012). Secondly, results of sustainable actions are intangible and long-term, which makes them hard to appreciate due to short-sightedness – one of the prevalent human biases (van Vugt *et al*., 2014). Finally, while sustainable development is about benefiting others and the planet, self-interest guides many of our actions. Thus, sustainable lifestyles are embedded in complex systems where both individual factors and those of physical and social environment play a defining role in their adoption.

1.2 Problem

We all live in communities be that our house, district or the whole village or town. Community is a great example of a system where constant interactions between individuals and the surrounding environment shape daily practices (Middlemiss *et al*., 2011). Unfortunately, the majority of behaviour change programs ignore this fact, and instead persistently build upon models that target individuals (Lefebvre, 2014). Only recently, researchers started to pay attention to community factors and one of the examples is a well-cited Community-Based Social Marketing (**CBSM**) approach (McKenzie-Mohr & Schultz, 2014; McKenzie-Mohr, 2000). It combines different insights from psychology to suggest a step-by-step framework for crafting behaviour change campaigns. While its practical tools have been successfully applied by research in pro-environmental behaviours (*e.g.* McKenzie-Mohr & Schultz, 2014; Bernstad, 2014; Haldeman & Turner, 2009; McKenzie-Mohr, 2000), these studies have two peculiar gaps.

Firstly, McKenzie-Mohr (2000) does not define community when describing **CBSM**, thus this definition might be perceived as a given and the approach as suitable to any kind of community. Simultaneously, research on **CBSM** often looks at relatively small areas like neighbourhoods (Bernstad, 2014; Haldeman & Turner, 2009) or offices (McKenzie-Mohr & Schultz, 2014), while omitting effects of scaling it up to entire towns/cities. However, sometimes it is the whole city that has to adopt a new behaviour. For example, in Malmö, the third largest city in Sweden (SCB, 2014), a goal has been set to sort 40% of all organic waste for biogas production by the end of 2015 (VA SYD, 3, 2015). This is an important part of the overall goal of the municipality to become fossil-free by 2030, since the production of biogas would allow city traffic to run on renewable energy (Malmö Stad, n.d.: 2). In order to fulfil this goal in the long run, all resident are expected to sort their organic waste, which might be a great challenge to achieve in the city with high diversity and mobility (Malmö, 2015). Thus, designing behaviour change strategies in bigger communities is a relevant practical problem.

Secondly, the **CBSM** studies are often experiments, pilots and short-term cases controlled by a researcher. However, people cannot achieve sustainable lifestyles through one-time actions, but only through repetitive practice, that builds strong habits (Spotswood *et al*., 2015). Recently revived Social Practice Theory (**SPT)** strives to shed light on elements that shape our daily routines **(**Shove *et al*., 2012; Reckwitz, 2002), which has potential to strengthen behaviour change work (Spurling *et al*., 2013). At the same time, the theory has been mostly used in consumption research (Shove & Pantzar, 2005; Warde, 2005), while perspectives on pro-environmental behaviours and social marketing are still almost inexistent despite the great potential to enrich these fields and trigger a population-level change (Spotswood *et al*., 2015; Hargreaves, 2011). **SPT** looks at the role of interactions between individuals and their environments (Shove *et al.*, 2012; Schatzki, 2001), which can provide the way to close a theoretical gap that appeared from the persistent conflict between upstream, *i.e.* focus on institutions, and downstream, *i.e.* focus on individuals, approaches to social marketing (Cherrier & Gurrieri, 2014).

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Social marketing research has already started identifying not only individual but also external factors that influence behaviour, and **CBSM** is a good example that puts community in focus. However, the approach has two drawbacks: it has not been applied to larger and diverse communities, like cities; and it has not focused on sustaining new behaviour over time, in which developing **SPT** might be of help. Therefore, there is a need for empirical insights about long-term social marketing campaigns that aim to promote sustainable behaviour on a whole-city scale.

1.3 Aim and research questions

The aim of this project is with the help of multidisciplinary research and Social Practice Theory to explore the role of various enabling factors of pro-environmental behaviour change in a big community setting.

To achieve the aim, the following research question is formulated:

How can a social marketing campaign that promotes behaviour change in a whole city be implemented?

The project includes a case study of the long-term campaign, which has been run in the municipality of Malmö to encourage city residents to sort their food waste. The focus is on the activities that have taken place since 2012, when it was decided to make sorting of food waste in the municipality mandatory for everyone.

1.4 Delimitations

The project, and the case study in particular, builds on the assumption of a democratic society, *i.e.* not considering the conditions where people can be closely monitored and severely forced to change their behaviour. Moreover, the case organizations operate in Malmö, which has been the best municipality in Sweden in environmental work two years consecutively (Gunnarsson, 2014). The overall conditions for behaviour change initiatives in the city might be relatively

good due to the persistence of environmental questions on the political and media agenda. Since culture can have a significant effect on predisposition for adopting responsible behaviours (Spotswood & Tapp, 2013), it would be interesting to have a closer look at areas where such conditions are not in place (*e.g.* constrained by low economic capital or with bad political climate for environmental work). However, a municipality that is seen as progressive in sustainability work is also a good source of success cases, which is needed for this project, and which with the help of further research can be adapted to different circumstances.

While one of the motivations to write the project was the call for businesses to engage in behaviour work to benefit the society, I do not include any private companies in the case study. Instead, public organizations, for which the successful implementation of the campaign is directly important and linked to their work, are studied. While the described tools and aspects are relevant for both private and public sector, there is still much work to be done to create incentives for businesses to apply social marketing. This probably explains the lack of cases from private companies. One more empirical delimitation is that the empirical study focuses on household recycling, *i.e.* sorting of organic waste that occurs at home. While other target audiences of the campaign, *e.g.* companies and property owners, and different domains of life, *e.g.* school and work, are considered, they are not in the key focus of the project.

Regarding theoretical delimitations, multidisciplinary literature is reviewed in attempt to keep the framework as inclusive as possible. However, **SPT** is used to guide the analysis, which is a delimiting choice. This choice is explained by two factors: firstly, the theory is attentive to both environmental and individual aspects of behaviour (Shove *et al.*, 2012; Schatzki, 2001), which is useful in addressing the research problem; and secondly, **SPT** has the potential to contribute to social marketing, which has been largely underestimated by research and thus carries the value of originality (Spotswood *et al.*, 2015; Hargreaves, 2011). One of the most widely used models, Ajzen's "Theory of Planned Behavior" (1991), could be employed as alternative or incorporated into the analysis. However, Hargreaves (2011) argues that this theory has been open to many changes and has become complex for empirical use. Therefore, this might dilute the focus and originality of the study.

1.4 Outline

This thesis starts with Introduction (Chapter 1), which describes the problem and how the study aims to address it. It provides the research question that guides the analytical process and establishes the limits of the study. Literature review (Chapter 2) is then conducted in order to develop a multidisciplinary view on current trends in social marketing that seek to develop effective tools for behaviour change towards sustainable lifestyles. This leads to the conceptual framework of this study (2.5), where social marketing research and **SPT** are combined. In Chapter 3, all choices related to the methodological approach are presented together with the consequences they carry, ethical aspects and actions taken to ensure the quality of the research. After that, empirical background (Chapter 4) and empirical results (Chapter 5) are presented, which are then analysed in Chapter 6 with the help of the theories and the conceptual framework. Chapter 7 provides discussion of how the results of this study relate to other research reports. Finally, Chapter 8 reconnects to the aim and summarizes the key findings, as well as presents the practical implications and the suggestions for future research.

2 Literature review and theoretical framework

This chapter contains a multidisciplinary view on current trends in social marketing that seek to develop effective tools for behaviour change towards sustainable lifestyles. The review of literature consists of the debate around upstream and downstream interventions, the specifics of promoting pro-environmental behaviours, the community-based social marketing strategy, as well as the foundations and current state of Social Practice Theory. All these pieces are combined in order to build the conceptual framework for this study.

2.1 Choosing direction – upstream and downstream social marketing

By consulting behavioural sciences and sociology, marketing has already developed substantial understanding of decision-making processes, which has allowed it to shape wants and behaviour of people (Kotler, 2011; Alvesson, 1994). However, the discipline has been operating under the assumptions of limited responsibility and infinite resources, which cannot hold any longer. Constant pressures created an urge for the marketing discipline to pay attention to societal wellbeing and led to development of alternative applications of marketing technologies (Andreasen, 1994). One of them is *social marketing* that was coined by Kotler and Zaltman (1971) and has developed into an independent discipline aiming to apply the commercial marketing toolbox to achieve social benefits (Kotler, 2011). Social marketing has gained global recognition for its success; it is applied by a great variety of organizations and is seen as standing at the critical point of its development (Beall *et al*., 2012).

One of the reasons for such extensive attention is that social marketing plays an important role in promoting various aspects of sustainability for it focusses on changing behaviours for individual or common well-being (Peattie & Peattie, 2009). In fact, influencing behaviours of people, and not just ideas and attitudes, is the "*bottom line*" of social marketing (Andreasen, 1994:110). This principle has allowed many health-related campaigns to achieve extensive impact on improving living conditions in developing countries (Lefebvre, 2014). All over the world it has been successfully applied against smoking and alcohol consumption, to motivate people to exercise more and even to trigger a number of pro-environmental behaviours, such as recycling or energy conservation (Kotler, 2011). Connection to commercial marketing gives social marketing customer focus, which brings all the attention to target audience with their views and barriers to new behaviours (Peattie & Peattie, 2009). These features make it possible for social marketing to affect behaviours tied to consumption practices that have negative impacts on health and the environment, and even to de-market such behaviours.

Social marketing campaigns that exclusively target individuals and their behaviours are called *downstream*, and are rooted in the idea of exchange, targeting and other conventional marketing principles (Hoek & Jones, 2011). What marketers can do best is to create an interesting offer and by any means to ensure that a person receives the information and has interest to buy a product (Andreasen, 1994). Thus, social marketers should act in the same way and provide a voluntary choice of behaviour change. This can be done with the help of marketing mix adapted to behaviour work by Peattie and Peattie (2009:263-264). They redefine the 4P framework (figure 1) as *proposition* (instead of product), *accessibility* (instead of place), *cost of involvement* (instead of price) and *social communication* (instead of promotion).

Figure 1. Social marketing mix (based on Peattie & Peattie, 2009:263-264).

Propositions embody behaviours that need to be adopted, such as buying organic food or recycling. Accessibility ensures that all required means for adoption of new behaviours are available – people have shops and markets that sell organic produce and recycling facilities in the area. Cost of involvement is all the time, effort and psychological barriers that preclude new behaviours (*e.g.* like with cycling or recycling), as well as financial costs in some cases (*e.g.* organic food is more expensive). Finally, social communication is all possible communication, interaction and relationship tools that can ensure that behaviours are adopted and maintained. These four steps give a social marketer a clear customer focus and perceive target audience as free and rational individuals that can understand which lifestyles are better for them and others (Cherrier & Gurrieri, 2014).

At the same time, whether behaviour change should be voluntary or not is one of the pressing questions in the field of social marketing now (Spotswood *et al*., 2012). Cherrier and Gurrieri (2014) sum up that the main opponents to the downstream approach question the initial assumption that individual can easily connect with provided information and make rational choices. Besides, in practice, many campaigns have contradicted "the behaviour bottom line" that Andreasen (1994:110) argued for, and instead have increasingly focused on changing attitudes and knowledge (McKenzie-Mohr & Schultz, 2014). However, changed attitudes do not necessarily lead to adoption of behaviours due to attitude-action gap, which has been covered by many studies (Csutora, 2012). Finally, promoting change in lifestyles is more complex that promoting a product since behaviours have many barriers to them, and thus changing environmental structure is required (McKenzie-Mohr, 2000; Carrigan *et al*., 2011).

In order to consider external forces and understand the context in which actions are framed, *upstream* social marketing has developed as an alternative that seeks to change structural environment that influences human behaviours (Cherrier & Gurrieri, 2014). Instead of making posters that show how bad smoking is for one's health, upstream approach would look into the effects that tobacco advertising has on shaping peoples habits or into legislation that allows/prohibits smoking in certain public places. The point of departure is that, for example, there is no sense persuading someone to cycle to work, if the city is designed for cars and has poor cycling infrastructure. One of the foundations of upstream social marketing is the Ecological Systems Theory (Bronfenbrenner, 1979), that identifies environmental systems in which an individual interacts (Gordon, 2013). These systems are located on different levels: macro-(culture), exo-(community), meso-(organisational, institutional) and micro-(individual and interpersonal (Bronfenbrenner, 1979 in Rettie *et al*, 2012:424). Thus, the idea of upstream social marketing is primarily to understand physical and social conditions in which individual exists, and then alter these conditions to accommodate behaviour change (Cherrier & Gurrieri, 2014).

In other words, human behaviour may be seen as strongly affected by peers, community, role models, norms, culture and infrastructure, and only by removing voluntary assumptions social marketers can achieve significant impacts (Gordon, 2013). This involves extensive work with

decision makers that leads to effective policy change, as well as engagement of important stakeholders such as opinion builders among media and researchers. Moreover, upstream marketing aims at creating supportive environments and environmental cues that can push the behaviour into being (Hoek & Jones, 2011; Spotswood *et al*., 2012). One example is nudging technique that applies insights from psychology and makes small environmental alterations in places where actual decisions are made, which reportedly leads to automatic shifts in behaviour (Thaler & Sunstein, 2009). For instance, it has been shown that changing plates from big to small in buffet restaurants can lead to slightly bigger reductions in food waste than traditional information campaigns can achieve (GreenNudge, 2012). On a bigger and more long-term scale, upstream marketing is about changing infrastructures and affecting social contexts in which behaviours are framed (Cherrier & Gurrieri, 2014).

According to Cherrier and Gurrieri (2014), most of the opposition to the upstream approach is coming from the industries that argue for the untouchability of neoliberalism ideas, *i.e.* that people are free to choose what to do or not to do. Usual examples of such industries are tobacco, alcohol and food producers fighting against regulations that hamper behaviours, which they see as "*the matter of adult choice*" (Hoek & Jones, 2011:35). Consequently, different public-private partnership initiatives were created to allow possible compromises between freedom of choice and sustainable development. Upstream interventions may also fail to account for constant changes in the environment that are happening at the same time (*ibid*.), and thus may bring obsolete solutions. Finally, non-voluntary behaviour change has often been discussed as social engineering (alluding to manipulation) that might be harmful for a democratic society (Thompson & Parsons, 2014), which means much work is needed to ensure that such interventions go smoothly and with regards to feedback from others (Spotswood *et al*., 2012).

So which approach is more effective? On the one hand, downstream social marketing employs a great deal of proven marketing technologies and brings a unique customer focus that helps to understand various decision making mechanisms in humans (Andreasen, 1994; Peattie & Peattie, 2009; Kotler, 2011). On the other hand, upstream social marketing identifies physical and social barriers in the environment that support some behaviours and hinder others, as well as suggests various tools that can alter and eradicate such barriers (Hoek & Jones, 2012; Spotswood *et al.*, 2012; Gordon, 2013). However, each approach alone has a number of weak points that prevent them from being an absolute tool for all occasions. Lagarde (2012) argues that in fact enormous potential exists for integrating both ways of thinking.

"You will have a much better chance of influencing people and encouraging them to adopt a behaviour (behaviour focus) if you know more about them (audience orientation); understand that not all people are likely to be at the same starting point (segmentation); consider your competition; actually make it attractive for people (value exchange, marketing mix, and upstream strategies); partner with influential people (midstream); communicate effectively (promotion); and are in it for the long run (sustainability)" (*ibid.*:77)

In other words, behaviour interventions should employ a great variety of tools that target both individuals and their environment in order to be effective. In support of this point, Cherrier and Gurrieri (2014) look at social marketing from a neo-institutional perspective, *i.e.* with care to both individuals and different levels of structure like upstream (*e.g.* policies, infrastructure) and midstream (*e.g.* family, friends). Individuals and environments then can be seen as constantly affecting each other and the key to changing human behaviour is in the dynamic system of these interactions.

2.2 Promoting pro-environmental behaviours

Understanding context in which individuals interact and the call to combine different behaviour change tools might be especially valuable for effective work with sustainable lifestyles, which are defined in this study as pro-environmental behaviours. The majority of campaigns and the biggest expertise in social marketing lies in a wide variety of health issues (Beall *et al*., 2012; Peattie & Peattie, 2009). Application of social marketing to pro-environmental behaviours has not been covered likewise, but is clearly on the rise (Beall *et al*., 2012; Kotler, 2011). There are many complex sustainability problems that are connected to consumption habits that build on human behaviour (Peattie & Peattie, 2009), but successful behaviour change interventions are not easy since these problems are embedded in human nature that has been formed by strong evolutionary biases (table 1) (van Vugt *et al*., 2014).

Table 1. Evolutionary psychological biases underlying environmental practice (based on van Vugt et al., 2014:4; modified by the author).

Evolved psychological bias	Constrain on behaviour change	Example of campaign suggestions	Support/opposition in other literature
Self-interested	Prioritize personal interests	Provide personal gain	Appeal to certain values can activate related values and weaken opposing ones (PIRC, 2011; Schwartz, 1992), which has implications on behaviour spillover. Thus, environmental motivations (Thogersen & Crompton, 2009) and shared community benefits (Nicholls & Strengers, 2014) may be a better alternative
Status	Value relative status	Provide status with green products	
Short-sighted	Value present over future	Induce perception of stable environment	
Social imitation	Copy what others around are doing	Use social norms to promote behaviour	Design communication and physical interventions with focus on descriptive social norms (McKenzie-Mohr & Schultz, 2014; Rettie *et al*., 2012; Cialdini, 2003) using close reference groups (Goldstein *et al*., 2008)
Sensory mechanisms	Ignore distant threats and dangers	Use tangible sources of information	

Van Vugt *et al*. (2014) argue that campaigns aiming at promoting pro-environmental behaviours will fail if they ignore evolutionary tendencies of humans. They have created a theoretically grounded and empirically tested list of biases that are partly the cause for environmental problems. Firstly, people have evolved as *self-interested* and tend to prioritise personal over collective interests, which can be one of the reasons of depletion of common natural resources. Secondly, *status* plays an important role in human decisions, and pursuit to be better than others may cause overconsumption. Thirdly, people are often *short-sighted* and prefer immediate over future rewards, which underpin many of current environmental challenges. Fourthly, humans tend to *imitate others* and can even conform to practices they would not do otherwise. Finally, we are used to trust our *sensory mechanisms* and have hard time feeling for problems that are remote and cannot be seen or touched here and now.

In spite of not being an exhaustive list of reasons of environmental problems, these human biases are worth to understand and consider when shaping behaviour interventions (*ibid*.). For

example, to overcome short-sightedness, pro-environmental campaigns should stop showing the future as dangerous and unpredictable, but rather safe and predictable. Then there is a higher probability that a person would not value today over tomorrow. Moreover, certainty about the future is a cultural factor and depends, for example, on economic security, which affects predisposition to sustainable lifestyles (Spotswood & Tapp, 2013), but is outside the scope of this study. Another bias, of sensory mechanisms, requires using tangible sources of information (*e.g.* odours, contact with nature) (van Vugt *et al*., 2014), and can possibly enrich the social marketing mix. For the remaining three biases there exists both strong support and opposition with regards to applying them for behaviour change, and thus they are considered in more detail.

2.2.1 Social imitation and norms

Social imitation bias, *i.e.* that people tend to imitate the majority, emphasizes the role of social norms in shaping human behaviour (van Vugt, 2014). Rettie *et al*. (2012) argue that many individuals already know which behaviours are green, but do not necessarily associate them with normal. Such behaviours can be perceived as exclusive (*e.g.* buying organic food) or even extreme (*e.g.* not eating meat). Perceptions of normality also depends on the context and vary from country to country, and for example, in Great Britain commuter cycling is seen as heroic and radical, but not normal as driving a car (Spotswood *et al*., 2015). Many social marketing campaigns exacerbate the situation by showing the prevalence of unwanted behaviours asking their audience to be special and act differently (McKenzie-Moht & Schultz, 2014; Cialdini, 2003). Moreover, even if people consider adopting certain behaviour they may see their actions insignificant for solving global problems due to suspicion that others do not act the same (Reynolds, 2010).

Cialdini (2003) explains that such strong conformity of people is not necessarily a negative thing for social marketers, since norms can similarly improve messages promoting behaviour change. While there are many other factors that make messages persuasive, norms have demonstrated a very strong impact on human intentions. Norms can be descriptive (*i.e.* what others do) and injunctive (*i.e.* what is approved by others), and the former have a particularly strong and direct effect on the audience, especially when represented through a reference group that has strong meaning and close proximity to them (Goldstein *et al*., 2008). In their famous experiment, Goldstein *et al*. (2008) tested different messages calling for reusing towels in hotel rooms. More people reused their towels when they knew that other hotel guests (especially staying in the same room) had done the same before, than those shown usual messages calling to protect the environment. Thus, effective social marketing communication should build on descriptive norms that makes target audience aware of what is common among people like them.

A good question would be whether norms can be used to promote only those behaviours that are already widespread. Rettie *et al*. (2012) show that it is almost a natural process that some activities become more common and substitute the others. This process of social normalization can be both organic and reinforced by marketing activities that reposition some activities as normal and then de-market their alternatives as not normal. McKenzie-Mohr and Schultz (2014) show that sometimes just making an activity visible (*e.g.* recycling bins in a district) can serve as a good aid in normalizing it. If based on identities with close groups, like community or neighbourhood, and used wisely and early on, norms can achieve positive results even with people with low initial motivation to engage in new behaviours. This makes communication efforts and physical interventions that work with social norms an important element of all social marketing campaigns.

2.2.2 Importance of values

Throughout the history, people have evolved as self-interested and pursuing relative status, so abstract goals (*e.g.* saving the planet) or pure environmental reasons (*e.g.* protecting wildlife) may have to be completely abandoned by social marketers (van Vugt, 2014). Instead, their interventions should draw on personal gain, status enhancement and competition. This idea has become popular over the recent years with cases like awarding pro-environmental behaviour with points that can be spent on different products (Recyclebank, 2015), promoting energy efficient devices by highlighting money savings or appeal to status and style when advertising organic clothes and electric cars (Ottman, 2011). While these solutions seems attractive and pragmatic, they also embody certain dangers (Thomas & Sharp, 2013).

Appeals used by campaigns to reach out to people might have strong effects and side effects on human behaviour because they engage values (PIRC, 2011; Schwartz, 1992). Following numerous cross-cultural studies in social psychology, Schwartz (1992) illustrated consistently occurring values that he grouped in two axes with opposing clusters. One includes *self-enhancement* (pursuit of status and success) as compared to *self-transcendence* (concern with wellbeing of others); and the other – *openness to change* as opposed to *conservation* (resistance to change) (Schwartz, 1992 in PIRC, 2011:16-17). The main point is that engaging values from a certain cluster can provoke similar values while weaken opposing ones. This way, monetary rewards or reminding about status and power can have negative implications on pro-environmental or socially responsible behaviours. For example, volunteers who are offered payment devote less time and attention to work then those who engage out of intrinsic values (Frey & Goette, 1999). Similarly, selling sustainable lifestyles as bringing savings or status might reinforce these biases in a negative way.

In other words, appeal to personal gains is likely to have negative effects on adoption of pro-environmental behaviours in all domains of life (Thogersen & Crompton, 2009). Behaviour spillover is an interesting, but still contested area of social marketing, and more evidence exists for negative mutual effects of behaviours (Thomas & Sharp, 2013). Thogersen and Crompton (2009) explain how people tend to justify environmentally negative behaviours (*e.g.* flying) by boasting about engagements in other, more simple and painless, acts like recycling. Often this occurs because even though a pro-environmental behaviour is adopted, it does not touch a person's lifestyles deep enough to trigger more demanding commitments. At the same time, positive spillovers are also possible, and can be achieved, for instance, through reinforced attitudes (*i.e.* I recycle and can do more good) or gained skills and knowledge (*e.g.* knowing one certification (KRAV) makes it easier to trust other certification schemes (Nordic Swan)). However, for this, campaigns should avoid ambiguous messages mixing financial and intrinsic values and strive to communicate clear environmental behaviours, no matter how challenging it is, as well as make clear connection between different behaviours that seem reasonably similar.

Despite strong support for possible dangers of appealing to personal gain, the evolutionary bias of self-interest still exists. At the same time, van Vugt (2014) suggest possible ways to redirect this bias towards the notion of benefit for others: close people or people around us. This way an intervention could possibly trigger group identification that historically helped humans to unite when facing a common challenge. Shared benefits can have certain effects on attitudes, for example understanding how change in your behaviour can benefit people in your community can make people seriously reconsider their unsustainable practices, *e.g.* overuse of air-conditioning that leads to pick prices for others in the neighbourhood (Nicholls & Strengers, 2014). Shared benefits can also affect behaviours, and one of the living examples of this is

ecovillages – intentional urban and rural communities that aim at sustainable lifestyles and collective identity (Ergas, 2010). Moreover, some evidence exists that people engage in pro-environmental behaviours if they have strong place attachment and identity (Devine-Wright & Clayton, 2010). Thus, community engagement might be seen as a possible catalyst for adoption of pro-environmental behaviours (Thomas & Sharp, 2013).

People might be self-centred and status oriented, but it does not mean that social marketing has to appeal to these values. It is otherwise – in order to ensure that new behaviours touch upon lifestyles and are consequently maintained and even expanded to other domains of life, behaviour change interventions should build on environmental reasons and clear community benefits. This way people may understand that their actions are meaningful for those around them as much as for themselves.

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To sum up, working with pro-environmental behaviours is challenging as they are underpinned by strong evolutionary biases of humans (van Vugt, 2014). This makes social norms (Rettie *et al*., 2012; Goldstein, 2008; Cialdini, 2003) and values (PIRC, 2011; Thogersen & Crompton, 2009; Schwartz, 1992) very important. Even though both do not provide social marketers with ultimate solutions, they redirect focus from individuals to social and physical context in which they exist. Context and culture then might have the biggest influence on human behaviour (van Vugt, 2014), and communities are a good example of such contexts (McKenzie-Mohr, 2000).

2.3 Developing strategy – Community-Based Social Marketing

Context has a significant effect on human behaviour. Firstly, behaviour change is not an isolated process, but happens on social level involving interpersonal channels of communication (Carrigan *et al.*, 2011). And secondly, a diverse set of environmental barriers exists that constantly alters human choices (McKenzie-Mohr, 2000). However, social marketing campaigns tend to overlook these factors and extensively build on information campaigns that are based on traditional marketing principles and are set to promote behaviour in similar way as products. While using this problem as explanation for failure of many behaviour change initiatives, McKenzie-Mohr and Schultz (2014) propose an alternative approach that has proven to be effective with a broad set of behaviours. This approach, which has roots in insights from psychology, is called Community-Based Social Marketing (**CBSM**) and consists of five steps (figure 2).

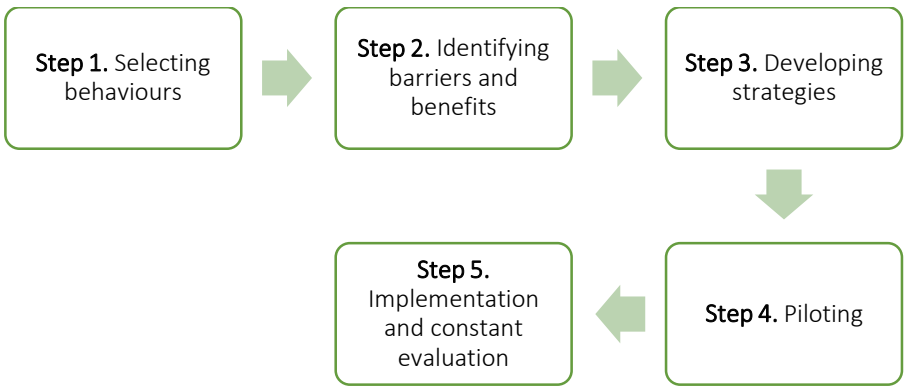

Figure 2. Community-based social marketing strategy (based on McKenzie-Mohr & Schultz, 2014:36-37; author's interpretation).

To begin with, program planners should identify which behaviour is to be promoted (1) (*ibid.*). Such behaviours need to be non-divisible, *i.e.* as concrete as possible. For example, instead of encouraging energy or water efficiency among residents, which may sound blurry, one can promote particular solutions, like installing certain type of energy-efficiency bulbs or tap aerators in the bathroom. Once this critical first step is done, potential barriers and benefits for the new behaviour should be identified (2). A variety of secondary and primary sources can be employed to list things that motivate or inhibit behaviour adoption. Barriers to behaviour can be internal (*e.g.* lacking knowledge/skills) and external (*e.g.* missing infrastructure), and can vary widely between individuals and situations. To overcome these barriers and foster behaviour change, strategies are developed based on the extensive research in social sciences (3). These strategies are then piloted on a certain community segment (4) and constantly evaluated after broad-scale implementation (5). The core of **CBSM** is a rigorous program design crafted for particular audiences and aiming to overcome the barriers that hinder them from adopting a new behaviour.

Behaviour change does not happen overnight – it is a process that stretches from innovation to routine (Carrigan *et al.*, 2011). People might be at different adoption stages – from simply thinking about changing their behaviour to continuously maintaining new habits over a long time. Depending on the initial levels of motivation and existing barriers, different tools can be used in the third step of **CBSM** approach (McKenzie-Mohr & Schultz, 2014). For example, when a person is already interested in new behaviour, but has not acted yet, commitments can be used to assist with the first step. Many studies show that when a person is asked to commit verbally, by signing a contract, coming to progress meetings or being published in public newspapers, effects on behaviours (*e.g.* recycling or energy conservation) are considerable (Lokhorst *et al.*, 2013). Some behaviours happen in privacy, and public commitments that can be openly seen by others, like stickers on windows indicating that a household is engaged in a certain behaviour, can trigger social diffusion – another powerful **CBSM** tool (McKenzie-Mohr & Schultz, 2014).

Another way to push contemplation towards action is to set goals related to new behaviour (*ibid.*). However, not all of peoples' goals actually come true. To avoid this, not only should the implementation way to this goal be clear to a person, but also the progress should be visible. Haldeman & Turner (2009) identify in the literature that for a successful recycling program, all people that do put efforts in this new activity should receive confirmation that their action are indeed leading to something good. Moreover, visualizing person's progress (McKenzie-Mohr & Schultz, 2014) and showing how other people that live nearby progressing (Ayres *et al.*, 2009) have proved to reinsure behaviour adoption, *e.g.* reducing residential energy use. In addition to information, noticeable visual reminders, also called prompts, which are put in places where behaviour actually occurs, can solve the common problem of forgetting (McKenzie-Mohr & Schultz, 2014). In brief, when the desired goal is clear and the progress is visible and supported by constant reminders, process of behaviour adoption can considerably speed up.

Often, new behaviour involves many additional efforts and difficulties, and it might be hard to achieve positive results by using only the instruments listed above (McKenzie-Mohr & Schultz, 2014). Convenience has become one of the pillars of the contemporary human life (Shove, 2003), and accordingly, the new behaviour should be easier to perform than the one it is set to substitute. For example, one study comparing different food waste collection systems in Malmö, identifies perceived inconvenience in conventional, *i.e.* curb side, system, like smell or concern that a waste paper bag will make clothes dirty (Kärrman *et al*, 2005). Consequently,

more modern solutions, *e.g.* food waste shredders installed in the kitchen, are presented as more superior. Sometimes, convenience can be even applied through choice editing, when changing default setting of washing machines to cold (McKenzie-Mohr & Schultz, 2014) or shifting from opt-in to opt-out, *i.e.* when person needs to unsubscribe and not to subscribe, in organ donation schemes (Spotswood *et al.*, 2012), can have powerful effect on respective behaviours. As long as it is easier to act right than to act wrong, the choice of the former will follow.

In fact, convenience has been shown as the most effective tool to promote recycling – both in general (Haldeman & Turner, 2009) and of food waste in Malmö in particular (Bernstad, 2014). For example, just knocking doors and installing recycling containers in every kitchen in a neighbourhood can lead to a considerable increase in recycling rates (*ibid.*:1320). At the same time, convenience is not necessarily enough to achieve sustainable improvements. Haldeman & Turner. (2009) identify an interplay of factors that together can affect recycling adoption, including convenience, social norms and commitments. Besides, effectively delivered education is also important to ensure better quality of recycled waste, *i.e.* less miss-sorting (Rousta & Ekström, 2013). Moreover, while **CBSM** studies tend to cover smaller areas like offices (*e.g.* McKenzie-Mohr & Schultz, 2014) or neighbourhoods (*e.g.* Haldeman & Turner, 2009), cities have a higher mobility with people moving in and out of the apartments (Bernstad, 2014). Since sustainable lifestyles are achieved only through a maintained practice of new behaviours (Spotswood *et al.* 2015), full-scale strategies consisting of different tools might be needed instead of single intervention campaigns to trigger persistent change in dynamic environments.

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CBSM is an alternative to information-only campaigns, and suggests a framework for behaviour change work based on research from social sciences. The approach consists of five steps: selecting desired behaviours, identifying barriers and benefits, crafting strategies, piloting them and evaluating after a full-scale implementation. A variety of tools can be used to promote behaviour depending on initial levels of motivation and adoption stage, and they can complement each other to shift behaviours from one-time affair to a sustained practice.

2.4 Social Practice Theory

Recent research in social marketing and behaviour change shares a common view that purely individualistic focus of campaigns is not sufficient. This calls for reconsidering the role of the theoretical foundations, such as Ajzen's Theory of Planned Behavior (1991), and searching for alternative ones. This sub-chapter presents Social Practice Theory (**SPT**) as an alternative way to understand the underpinnings of human behaviour defined through daily routines comprised of various elements and how this knowledge can be applied to shape social marketing interventions.

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There are a number of social science theories that address human actions and social order, and thus attempt to understand behaviour. Traditionally, this was done in two opposing directions: *homo economicus* and *homo sociologicus* (Reckwitz, 2002). The former explains the world as populated with rational individuals with self-interest and the social order as an outcome of individual intentions; while in the latter case, the world consists of commonly accepted norms, and people follow these rules. Researchers that were unhappy with such general explanations

of social life wanted to find the ways where neither individuals nor structures are ignored (Schatzki *et al*., 2001). This triggered various ideas that together formed practice theory, and rooted in the works of Bourdieu, Giddens, Schatzki and others, it now experiences revival (Shove *et* al., 2012; Reckwtiz, 2002).

The most important implications for behaviour change research is that the theory explains actions not as direct results of attitudes or beliefs, or as constrained by a pre-defined context, but rather as embedded in social practices (Warde, 2005). These social practices are shared, routinized human activities (Reckwitz, 2002), like eating, cleaning or playing football. In practice theory, they become a new unit of analysis, instead of, for example, single actions, and people are seen as carriers of practices who actively engage in them (*ibid.*). While practices include both doings and sayings and require such performance to exist, they are much more than the behaviour that we can observe (Warde, 2005). They are complex entities consisting of several interconnected elements, such as *"forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge"* (Reckwitz, 2002:249). This broad list shows all the complexity of practices that define human behaviour.

At the same time, there exist many other diverse views on the role of practices and their elements in practice theory, and as Reckwitz (2002) and Warde (2005) argue, the research in the field has generally been chaotic and hard to apply empirically. In attempt to close this gap, Warde (2005) and then Shove and Pantzar (2005) approach the theory with a practical topic of consumption, which results in an empirically grounded proposal for a model that explains practices by boiling down their elements to three major groups (figure 3) (Shove & Pantzar. 2005; Shove *et al*., 2012).

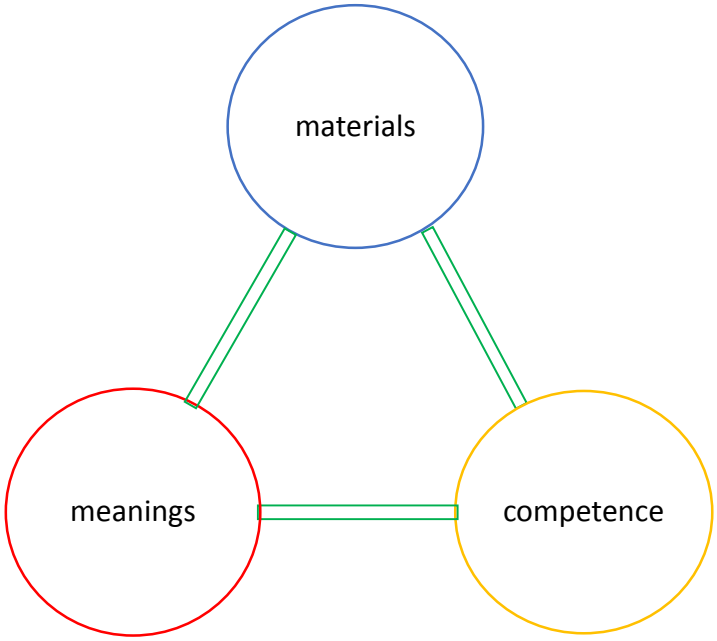

Figure 3. Elements of practice (Shove et al., 2012:14).

According to this model, practices consist of a number of interconnected elements that must be present for practices to exist. These elements are materials, competences and meanings.

- *Materials* are tangible physical entities such as infrastructure, objects, tools, technologies and even our own bodies (Shove *et al*., 2012). For a practice of playing football, these could be a ball, a goal, a field, maybe uniform and many others. Throughout the history, materials have

played an ever more important role for people. They often have strong connection to human identities and have direct effects on our daily life (Shove & Pantzar, 2005).

- *Competence* includes skills, know-how and techniques (Shove *et al*, 2012). They define knowledge and ability to carry a certain practice. A football player should be able to kick the ball, preferably have dribbling and passing skills, have good stamina as well as know the rules. Even further, competences extend to knowing how to recognize and explain actions, and how to respond to them (Schatzki *et al*., 2001).

- *Meanings* comprise symbols, ideas and aspirations attached to particular behaviours and materials (Shove *et al*., 2012). They are a set of associations, experiences, values and socially shared senses of what is normal and appropriate (Shove & Pantzar, 2005). Such conventions can vary drastically from context to context, just as football plays quite diverse roles in different countries with regards to gender or culture.

Materials, competences and meanings are not self-standing and isolated, but interconnected elements that should be integrated in actual practices, and these connections play a similarly important role as the elements themselves (Shove *et al*., 2012). Certain elements can be to some extent shared between neighbouring practices, which compete for time and other resources of carriers. Thus, identifying what elements are and how they relate to each other can provide insights in how practices form, develop, change and fade.

Practices, as well as practitioners, *i.e.* people performing the practice, are not static, but have a career (Shove *et al.*, 2012). Once an individual starts performing a certain practice and gains positive experience (Shove & Pantzar, 2007), they will continue engaging in it and developing experience (Shove *et al.*, 2012; Warde, 2005). Warde (2005) also pinpoints that different level of commitments can affect the career of practitioners, and this career does not have to be successful and positive, but also the opposite. As more people engage in and carry on a certain practice, the practice itself and its meanings start evolving (Shove *et al.*, 2012). Thus, practices have an ever-changing number of employed practitioners, who have an ever-changing experiences and perceptions of the practices they perform.

The relevance of **SPT** for social marketing is in identifying how practices are actually created, challenged and discontinued (Hargreaves, 2011). Practice develops from ongoing interaction of its elements (Shove & Pantzar, 2005). Its change is affected by the change of the elements, of the links between them, and of population that carry the practice (Watson, 2012). However, this change can also be brought from the outside through interventions (Spurling *et al.*, 2013). Spurling *et al.* (2013) argue that practices can be replaced by more sustainable alternatives, if the competition for time and space, as well as the surrounding context are well understood and considered in the campaigns. Particular elements can also be re-crafted with various tools that provide materials, nurture competence and give meaning. Even though no straightforward tools have been developed yet, **SPT** gives a multidisciplinary view on social marketing, and a set of legislation, infrastructure change and diverse social marketing tools can be the way to build sustainable practices (Spotswood *et al.*, 2015)

2.5 Conceptual framework

Social Practice Theory suggests that behaviour may be better understood through routinized activities, *i.e.* practices (Reckwtiz, 2002), which consist of interconnected elements, such as materials, competences and meanings (Shove *et al.*, 2012). The model developed by Shove *et al.* (2012) displaying the three elements of practices connected to each other has been appreciated by a number of researchers as empirically helpful and applicable to behaviour change and social marketing work (*e.g.* Spotswood *et* al., 2015; Piscicelli *et* al., 2014; Hargreaves, 2011). However, the role of promoters in relation to practices has not been addressed much (Shove & Pantzar, 2007), despite of the understanding that practices can be affected both from inside and outside (Warde, 2005). While these elements, and the connections between them can change over time as the result of reciprocal relations between individuals and their surrounding environments, practices can also be intentionally affected by systematic intervention in their components (Spurling *et al.*, 2013). The conceptual framework, illustrated in figure 4, presents this idea.

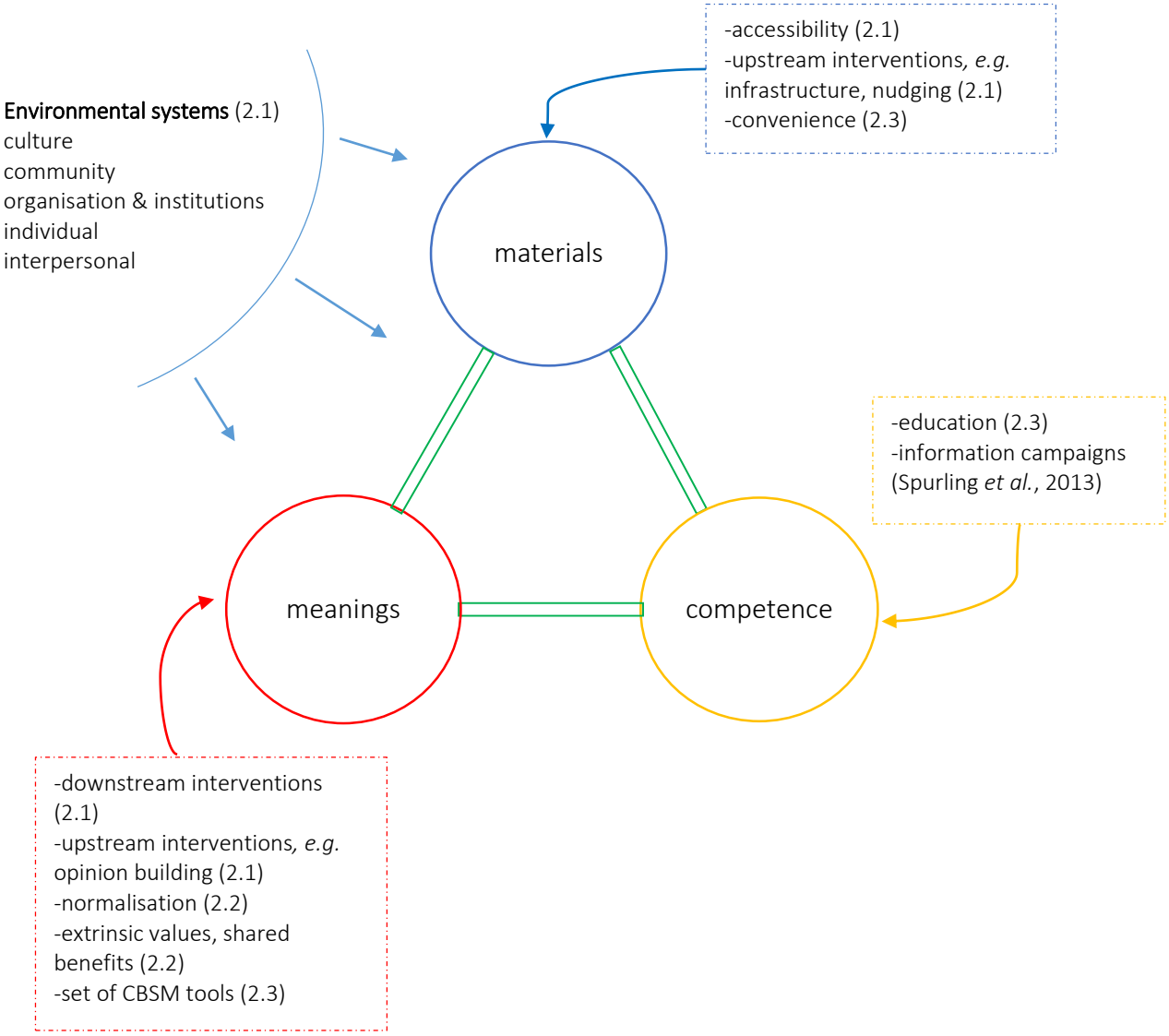

Figure 4. Conceptual framework (based on Shove et al., 2012:14, modified by the author).

Materials are necessary for performing the practice (Shove *et al.*, 2012), so they should be created or changed to allow the new practice (Spurling *et al.*, 2013). Social marketers should make sure that the desired behaviour is accessible (2.1) (Peattie & Peattie, 2009), that all structural components needed for performing this behaviour are in place (2.1) (Cherrier & Gurrieri, 2014). Nudging (2.1) techniques can also be applied for slight alterations in the physical environment, that push people into acting (Thaler & Sunstein, 2009). The main point here is to make it more convenient for a person (2.3) to do right than to do wrong (McKenzie-Mohr & Schultz, 2014). Then, even the hardest behaviours can become more attractive, and probability of their adaption increases.

Competences, *i.e.* knowledge and ability to perform the practice, are another vital element of practices (Shove *et al.*, 2012). Competence is one of the determinants for how much and fast a person will engage in the practice (*ibid.*) and are linked to perceived experience from it (Shove & Pantzar, 2007). Spurling *et al.* (2013) argue that information campaigns and different forms of training can be the way to assist the development of competences. When a new behaviour needs to be adopted, it is not only about doing it, but also about doing it right (Rousta & Ekström, 2013). Thus, effectively delivered education should not be underestimated (2.3).

Meanings, which are a set of associations, experiences, values and socially shared senses of what is normal and appropriate (Shove & Pantzar, 2005), can vary significantly from practice to practice. There are many ways to create and affect meanings, and social marketing in itself has this in its agenda (Spurling *et al.*, 2013). Various promotion techniques (2.1) (Peattie & Peattie, 2009) and some upstream interventions (2.1), like opinion building (Gordon, 2013), can be used to persuade a person to act. Values can be considered as *"proxies for meaning"* (Hargreaves, 2011:87), and appealing to extrinsic values (2.2.2) might ensure the positive effects of behaviour throughout a practitioner's lifestyle (PIRC, 2011; Schwartz, 1992). One example for such values in social marketing is working with shared benefits (2.2.2), which Nicholls & Strengers (2014) see as decisive in shaping community meanings.

A wide range of **CBSM** tools (2.3) can also affect meanings: when people feel commitment or strive to a certain goal and can see the progress, the adoption of new behaviour can accelerate (McKenzie-Mohr & Schultz, 2014). People are affected by others and tend to imitate the majority (van Vugt, 2014; Rettie *et al.*, 2012), so the normality (2.2) is also a strong meaning that facilitates social diffusion (2.3). In fact, social interaction strongly affects practices (Hards, 2011), and Hargreaves (2011) identifies that different domains of life should be always included in the forces of influence. The Ecological Systems Theory (2.1) (Bronfenbrenner, 1979) shows that such forces can come from the interactions on different levels, such as culture, community, organisations and institutions, individual and interpersonal.

This model (figure 4) attempts to show how different concepts and tools suggested by Social Marketing theories can function together and affect various elements of practice. In other words, it serves both as conceptual framework for this study and summary for the literature review. The framework is applied in Chapter 6 to analyse the behaviour change campaign conducted in Malmö to get people sort their food waste.

3 Method

In this chapter, all choices related to methodological approach are presented. Their relevance to the research problem and consequences for the research process are discussed to ensure transparency and consistency of the study. This project has flexible design and builds on literature review and case study with multiple sources of evidence – semi-structured phone and personal interviews and secondary data.

3.1 Research design

This project deals with a complex and rather unexplored phenomenon of community-based social marketing interventions. Both behaviour and community considered to be social constructions formed by interactions between individuals and structures (Spurling *et al*., 2013). Besides, the project purposefully focusses on a real-life campaign, rather than experiments, to address the research problem. For a researcher in the real world it might be challenging to decide on particular fixed frameworks and tools beforehand when dealing with such problems subject to external influence (Robson, 2011). Flexible design, on the other hand, allows to constantly reconsider both framework and tools, which in turn can lead to fresh findings.

Refining framework is crucial to ensure a good quality research, especially since flexible design relies heavily on researcher's interpretations, and thus there is a threat of missing out diverse explanations of data (*ibid.*). An abductive approach is a way to avoid such risk by moving back and forth between theory, empirics and analysis (Yin, 2013; Dubois & Gadde, 2002). It opens for multiple sources of data, which ensures triangulation and thus trustworthiness of the research, and is set to identify new variables and relationships. To close the gaps between the identified problem and rapidly developing social marketing theories, this project builds on an abductive approach consisting of literature review and case study.

3.2 Literature review

Being aware of literature in the field is important to gain confidence in studied issues (Yin, 2013). Literature review helps to identify gaps and trends in the area of interest, which in turn leads to better quality of analysis and eventual contributions (Robson, 2011). Having said that, it is not set to provide fixed answers, as the main goal is to build a "*tight and evolving framework*" (Dubois & Gadde, 2002, p. 558), that allows for considering empirical insights that appear in the process.

To construct a relevant framework for this study, a set of multidisciplinary literature covering social marketing and behaviour change is reviewed. The search is conducted in databases Google Scholar, Primo and Web of Knowledge and has four key themes relevant for the project's aim: state-of-the art in social marketing including the debate about voluntary behaviour change; social marketing and pro-environmental behaviours; social marketing and community-based interventions; and social-practice theory and behaviour change. A number of articles discovering different aspects of organic waste sorting in Malmö and Sweden are also included.

Since the literature review plays a vital role in this project, its quality has to be ensured. To avoid missing relevant articles, some of the leading journals in behaviour and social marketing are studied closely, *e.g.* Journal of Social Marketing, Social Marketing Quarterly and Journal of Environmental Psychology. At the same time, journals from a wide range of disciplines are also used to build an inclusive and dynamic perspective. Many of the included articles are well-cited and discussed in their fields, and all articles are peer-reviewed to ensure trustworthiness of the theoretical framework. Overall, much literature exists that directly or indirectly touches upon social marketing, which allows building a solid framework for this project.

3.3 Case study

To explain an unexplored and current problem, similar to the one this study deals with, case studies are a highly valuable tool to use (Yin, 2013). More specifically, single case studies are suitable when well-tested theoretical frameworks already exist, but a deeper look at an empirical problem can contribute and develop them further. Furthermore, case studies allow including multiple actors, and avoiding a singular unit of analysis considering both individual and group level constructs (Bhattacherjee, 2012). This might be useful when looking at a social marketing program involving behaviours of individuals in a community setting.

The notorious dangers with case studies are premature conclusions (Eisenhardt, 1989), poor decisions in choosing a suitable framework (Dubois & Gadde, 2002) and subjective bias (Yin, 2013). However, they may be avoided. In case studies, collection of data and its analysis often happen simultaneously (Eisenhardt, 1989). Moreover, flexible design and abductive logic allows to come back to research questions and theoretical framework and modify them as the interaction between theoretical and empirical results bring unexpected insights (Dubois & Gadde, 2002). Finally, to minimize possible biases, researcher needs to keep audit trail, *e.g.* case study protocol (Yin 2013, Robson, 2011). With these recommendations in mind and due to clear relevance for the studied problem, single case study is used to collect empirical data.

3.3.1 Choice of case and unit of analysis

In research with flexible design sampling foremost depends on the key purpose of the study (Robson, 2011). The campaign promoting recycling of organic waste in Malmö for biogas production is chosen due to three reasons. Firstly, Malmö is a progressive municipality in environmental work (Gunnarsson, 2014) and has a great potential to provide a successful case for this project. Secondly, the campaign is scaled to the whole community, highly depends on adoption of new behaviour and is measurable. Finally, the city transition towards sorting food waste has been running for a long time and is based on long-term effects. Thus, the campaign is highly suitable for reaching the aim of the project.

At the same time, choosing **SPT** as a theoretical framework bears certain consequences for research methods and places practices (and not particular actors or structures) in focus (Reckwitz, 2002). In other words, practices become a new unit of analysis, and the attention is directed to what people actually do and how they explain it, rather than to individual's qualities or infrastructure. Having said that, the perspectives of both producers (*i.e.* social marketers) and practitioners (*i.e.* target audience) of practice, as well as observations of the environment (*e.g.* infrastructure), can still be collected to develop a rich understanding of how practices form and change (Shove & Pantzar, 2005). For this project, a practice (or behaviour) of sorting organic waste is a unit of analysis with specific attention paid to external influences (*e.g.* campaigns,

infrastructure) as well as internal interpretations of this behaviour by practitioners (*i.e.* residents of Malmö).

3.3.2 Data collection

To explore a practice with appreciation to both individuals and structure, multiple sources of information are used. In fact, when working with flexible design research, it is even advisable to resort to triangulation of evidence for increased credibility (Yin, 2013). Using multiple sources of data and collection methods can ensure consistency of findings and even lead to unexpected insights into the problem. In addition to literature review, this project builds on empirical data, which is gathered with the help of semi-structured personal and phone interviews and various secondary sources, such as webpages, newspapers, reports and internal documents.

Interviews are an indispensable source of information in case studies (Yin, 2013). It has strong potential to provide details, rich ideas and explanations of the problem. Particularly, semi-structured interviews are used in order to collect data according to the evolving theoretical framework and at the same time stay flexible and adapt to interviewee's responses. (Robson, 2011). While having many positive sides for case-study research, interviews require rigorous care from researcher to ensure validity. An interviewer must be well-prepared on the topic and show good rapport (Leech, 2002), as well as document cautiously all possible results (Robson, 2011). In this project, a mix of interviewing methods is used: semi-structured phone interviews and personal interviews including elements of observation.

Behaviours, especially those mostly occurring at home, might be a sensitive topic leading to challenges in finding a wide variety of interviewees. Thus, in-depth phone interviews are used for residents of Malmö, for they permit more anonymity and privacy (Novick, 2008), while still having potential to produce as good quality results as face-to-face interviews do (Carr & Worth, 2001). This is due to their positive sides, *e.g.* smaller interviewer effect and fewer socially desired responses (*ibid.*). On the other hand, phone interviews have a number of drawbacks: frequent anxiety and irritation from interviewees as well as distraction of interviewees by their surrounding environment (Novick, 2008). Therefore, actions are taken to increase quality – all interviews are booked in advance to minimize the distraction problem; rapport and trust is established by introducing the involved organisations, purposes of the study and the fact that the interview is being recorded. All this information and questions are prepared beforehand and introduced to every participant.

Other possible disadvantages with phone interviews are shorter answers and lack of visual cues (*e.g.* context, facial expressions, body language), which may lower quality of results (Novick, 2008). A number of in-depth face-to-face interviews are employed to complement the results. Besides, when studying practices, using observations techniques might enrich data on actual performance of behaviour (Spotswood *et al.*, 2015), and one of the interviews (pers.com., Andreas, 2015) is conducted on the interviewee's kitchen with him showing his recycling system and how he sorts organic waste. Regarding the social marketer's perspective, specialists working with promotion of organic waste sorting in Malmö are interviewed face-to-face with a semi-structured method. In total, 19 interviews are conducted (table 2), and while selecting interviewees, three different approaches were used:

Firstly, with Malmö residents it was important to ensure that the respondents are randomly picked. Before this research took place, Malmö stad had conducted a phone survey collecting opinions on a recent information campaign about organic waste sorting. In this survey, all respondents were asked whether they would not mind giving a longer interview later on. A list

with 50 respondents had been provided to me, and every single one was contacted. Times were booked with those who repeatedly agreed for a longer interview. In the end, 8 people (age and gender are diverse) are interviewed over phone, and 3 face-to-face.

Secondly, a researcher in the real world should be open to unexpected events that can improve research outcomes (Robson, 2011). During one of the face-to-face interviews, it appeared that one interviewee (pers.com., Jelena, 2015) worked as a housing officer at the University of Malmö and was going to a student meeting where, among other problems, question of organic waste sorting would be discussed. I participated in this meeting of three international students as an observer and posed a couple of questions similar to those used with other interviewees.

Finally, regarding the social marketer's side, people directly involved in their organisations in the promotion of organic waste sorting are interviewed, namely Daniel Skog (communication officer at Malmö Stad), Christina Rydholm (communication manager at VA SYD), Ingela Morfeldt (project manager at VA SYD) and Cecilia Truedsson (environmental coordinator at MKB).

Table 2. Interviews in the case study.

Respondent	Role	Type	Validation	Interview date
Daniel Skog	Communicator, Malmö stad	Personal	Transcript	15-03-19
Christina Rydholm	Communicator, VA SYD	Personal	Transcript	15-03-19
Ingela Morfeldt	Project manager, VA SYD	Personal	Transcript	15-03-19
Cecilia Truedsson	Environmental coordinator, MKB	Phone	Transcript	15-04-14
Andreas, male, 40 yo	Resident, villa	Personal	Transcript	15-03-24
Jelena, female, 28 yo	Resident, apartment	Personal	Transcript	15-03-25
Mikael, male, 25 yo	Resident, apartment	Personal	Transcript	15-03-25
Aurore, female, 24 yo	Resident, student apartment	Mini-group	Direct oral	15-03-25
Kyle, male, 23 yo	Resident, student apartment	Mini-group	Direct oral	15-03-25
Yulia, female, 23 yo	Resident, student apartment	Mini-group	Direct oral	15-03-25
Bengt, male, 35-44 yo	Resident, villa	Phone	Direct oral	15-03-24
Henrik, male, 45-54 yo	Resident, apartment	Phone	Direct oral	15-03-23
Janna, female, 35-44 yo	Resident, apartment	Phone	Direct oral	15-03-24
Kristina, female, 35-44 yo	Resident, apartment	Phone	Direct oral	15-03-24
Lena, female, 65-75 yo	Resident, villa	Phone	Direct oral	15-03-24
Loka, female, 18-24 yo	Resident, student apartment	Phone	Direct oral	15-03-24
Petter, male, 35-44 yo	Resident, apartment	Phone	Direct oral	15-03-23
Seyed, male, 45-54 yo	Resident, villa	Phone	Direct oral	15-03-23

All interviews are recorded and fully transcribed not to miss vital details. The data is validated in different ways. Those interviewed face-to-face are sent a transcript of their responses for confirmation. A number of follow-up emails is sent to some of the interviewees for them to clarify some points. Direct oral validation is used with the mini group and phone interviewees for convenience, *i.e.* confirmation is done throughout the entire interviews with requests to elaborate on certain statements and reassure that the interviewer understood the answers right.

Working with *documents* is relevant to nearly all case studies (Yin, 2013). They give access to a wide range of both qualitative and quantitative data and can be reviewed easily. However, researcher must understand which sources state perceptions and which facts. Various documents are included in this study: newspapers covering the campaign and questions it addresses, websites of case organizations, reports with campaign indicators and internal documentation.

Secondary data is used to not only provide background information for this project, but also actively support the primary data. For example, the results of the phone survey, which had been run without my participation by Malmö stad to evaluate the recent information campaign, are also included in analysis. Moreover, given the fact that the project deals with a sensitive issue of behaviour that involves personal integrity, it is challenging to obtain narratives from people who do not sort their organic waste despite having access to doing this. As a result, anonymous comments made by such people in a discussion arranged by a local newspaper, Sydsvenskan (Sydsvenskan, 2014), are collected and studied with a similar framework as primary data.

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To sum up, this project is based on a diverse set of data collection methods: semi-structured personal and phone interviews and secondary information. This data is set to complement each other and not to be compared statistically.

3.3.3 Quality assurance

Achieving validity and reliability is an important step in the research process (Robson, 2011). The scientific value of case studies have always been under great scrutiny (Flyvberg, 2006), which makes it especially crucial for a researcher to ensure quality and address this critique (Yin, 2013). Riege (2003) combines extensive literature on the issue to offer a comprehensive set of techniques that can ensure validity and reliability in case studies (table 3).

Table 3. Techniques for establishing validity and reliability in case studies (based on Riege, 2003:78-79; modified by the author).

Case study design tests	Examples of relevant techniques	Applied in this project
Construct validity	use multiple sources of evidence in data collection	triangulation via different interview methods, perspectives and data sources
	establish chain of evidence in data collection	interviews are transcribed and secondary data is documented
	third-party review of evidence	transcripts and follow-ups sent to interviewees; otherwise, direct oral validation
Internal validity	use illustrations and diagrams in data analysis to assist explanation	graphic models from literature review/theoretical framework used for analysis
	ensure that concepts and findings are systematically related	same frameworks are applied to all sources of data
External validity	define scope and boundaries in research design	done in 3.3.1 and 3.3.2 for analytical generalisations
	compare evidence with extant literature in data analysis	abductive approach used; analysis build on theoretical framework
Reliability	give full account of theories and ideas	done
	assure congruence between the research issues and features of the study design	done throughout Chapter 3
	record observations and actions as concrete as possible	interviews are taped; notes made on observations
	use case-study protocol	done in appendix 1
	record data mechanically	interviews are taped
	develop case study database	done to organise collected data
	assure meaningful parallelism of findings across multiple data sources	same framework/logic used in all interviews and documents
	use peer review/examination	proposal and half-time seminar with peers; opposition for the seminar draft

In order to construct validity, this project employs multiple sources of evidence, such as phone and personal interviews, secondary data and perspectives of different actors. All interviews are transcribed, the transcripts are sent together with follow-up emails to the interviewees, and direct oral validation is used in other cases. To minimize systemic error, *i.e.* ensure internal validity, both interviews and secondary sources are approach with the same framework (see interview guide in appendix 2), and graphic models are used in analysis to assist explanation. The scope and boundaries of the study are defined in research design to make room for analytical generalisations, and the chosen approach includes constant matching of data with current literature. This allows for better external validity of the study. Finally, reliability is ensured through a number of techniques, such as assuring congruence between the problem and the study design; rigorously recording all traces; using case study protocol and database; using same framework across all data sources; and resorting to peer review. According to Riege (*ibid.*), all these actions can provide a case study with good scientific quality.

3.4 Ethical considerations

Ethical considerations are an important element through the entire research process (Guillemin & Gillam, 2004). Just as with research quality, researcher should be reflexive about ethics and be *"alert to and prepared for ways of dealing with ethical tensions that arise"* (*ibid.*:278). Ethical considerations in this project are divided into two groups: related to the research process itself and to the area of study. To ensure the former, firstly, all interviewees have agreed to be interviewed and taped and are informed about the purposes of the study, as Robson (2011) suggests. Moreover, the interviewees from the target audience are kept anonymous in this project with only first names and age being indicated, because the study includes aspects of their private lives. Their full names and contact details are collected and kept with their consent in case these are requested to ensure transparency and quality.

Social marketing involves a number of ethical considerations as the area of study. It aims at developing powerful tools to affect human behaviour, and thus touch upon such sensitive topics as privacy, choice and democracy (Thompson & Parsons, 2014). The most dangerous issue is a possible misuse of this knowledge – for example, when it is applied to promote extremist behaviour (Spotswood *et al.*, 2012), or by businesses that disguise their pursuits of profit as care for the society (Hastings & Angus, 2011). This creates a challenge for social marketers since they need to reassure that ends justify means, *i.e.* created social good justifies applied behaviour change tools (Spotswood *et al.*, 2012). Collecting evidence for the benefits of promoted behaviour (*ibid.*), as well as seeking acceptance from the society (Thompson & Parson, 2014) are some ways to do that, but most of all, social marketers need to be critical and reflexive.

3.5 Data analysis

Analysis in qualitative research is different from quantitative for it deals with text instead of numbers (Miles *et al.*, 2013). It implies looking for meanings through an iterative process that starts already when data is being collected. Interview questions for this study are based on the theoretical framework, and the results are categorized accordingly to, as Miles *et al.* (2013) suggest, examine relationships, condense and display data for further analysis. The process of qualitative data analysis is context bound and not fully predictable, and in particular, when working with narratives, new categories can occur that contribute to the initial contextual

framework. Narrative analysis based on multiple information sources is applied in this project, and various techniques, such as matching and organizing data in table and graphs is used to facilitate coding and categorization.

3.6 Limitations

Every choice of method bears certain consequences that researcher cannot control, but should be aware of (Robson, 2011). This project involves a single case study with semi-structured interviews as one of the key tools for data collection. Firstly, this entails that the results may not be generalizable (Yin, 2013). However, given the ever-changing environment, there might be no better way to understand a certain phenomenon in its context than an in-depth case study (Dubois & Gadde, 2002). Secondly, interviews lead to measuring perceptions of people, not objective facts (Yin, 2013). Nevertheless, when dealing with social constructions, it is exactly the meanings people give to the reality that researcher need to understand (Lindgren & Packendorff, 2009). Moreover, by interviewing more than one person and using more than one method, a wider view can be obtained (Yin, 2013). Finally, this is not a longitudinal study, but rather a snapshot of the current phenomenon. Having said that, secondary data and opinions on the previous steps of the campaign are still collected and included into consideration.

4 Empirical background

This chapter provides background information of the campaign promoting food waste sorting in Malmö. This includes the initial decision to promote sorting, some technicalities of recycling systems and the role of biogas – the end-product of sorting. Moreover, key actors involved in the campaign are presented.

4.1 Food waste recycling in Malmö

In 2003, the Swedish Parliament made a decision that at least 35% of organic waste, *e.g.* from food, garden and other organic material, is to be biologically handled in the whole country by 2010 (VA SYD, 3, 2015). This goal was not reached eventually (Avfall Sverige, 2014:16), and in Malmö in particular only 5% of organic waste was sorted by then (VA SYD, 2011:16). On 21st December 2011, it became obligatory for both households and companies in the municipality to recycle their food waste, and the new goal was set to 40% by 2015 (figure 5).

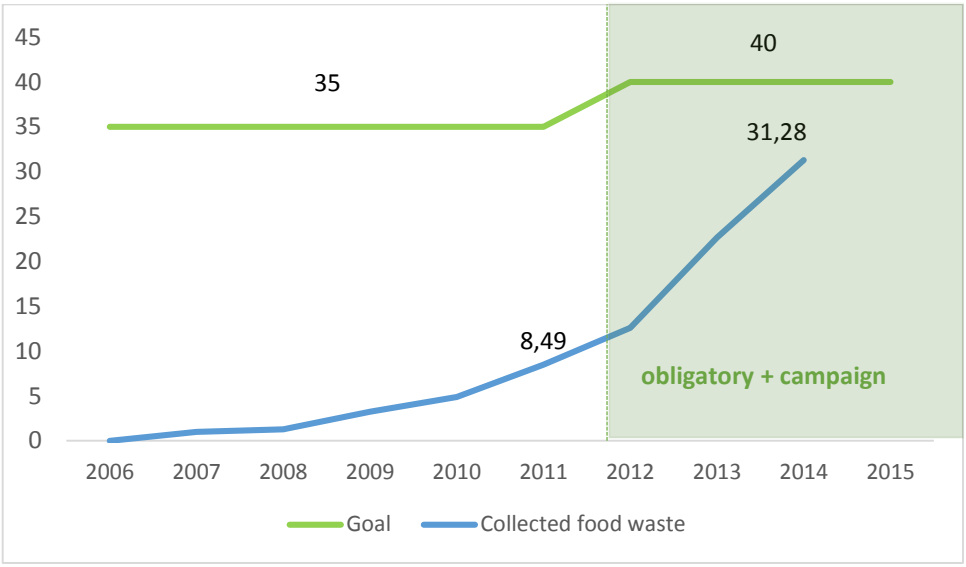

Figure 5. Collection of food waste in Malmö, % (pers.com, Morfeldt, 2, 2015).

Since the decision to make organic waste sorting obligatory, extensive work has been conducted with individuals, house owners and businesses to reach the set goals, which has resulted in the rapid growth of collection rates (pers.com., Morfeldt, 1, 2015). Despite the fact that it is obligatory to sort, no punishments, *e.g.* fines, have been imposed yet on those who do not sort.

Generally, there are three systems for organic waste sorting in Malmö: curb side collection (including waste sorting facilities in apartment block areas), vacuum collection and garbage disposal units (Kärrman *et al.*, 2005), which are illustrated in appendix 3. The former starts from organic waste being put into a paper bag and then collected in big brown bins belonging to villas or shared by apartment houses. Vacuum collection has the same paper bags with organic waste, but they are deposited into a porthole and transported through pneumatic tubes to a collection station hidden from view. The third system, garbage disposal units, ("*avfallskvarn*" in Swedish), are devices installed under a kitchen sink that shred food waste into small pieces that can be transported through a sewage system. The curb side collection is the most prevalent among Malmö residents, while the latter two are becoming more usual in

new buildings (pers.com., Skog, 2015). After the waste has been collected, it is transported by contractors to a pre-treatment plant run by SYSAV (SYSAV, 1, 2015), where it is processed into a special substance. This substance is then moved to a biogas production facility where biogas and fertilizer are made (SYSAV, 2, 2015).

VA SYD expect that the municipal goals for organic waste sorting will be successfully reached by the end of 2015 (pers.com., Rydholm, 1, 2015). At the same time, the behaviour work that has been done and will be done in the future is crucial, since new, more demanding targets gas been set for the whole country – 50% of organic waste to be sorted by 2018 (Avfall Sverige, 2014:16).

4.2 Biogas in Malmö

Reasons for such close attention and demanding goals are hidden in the enormous potential to return energy and nutrients from the organic waste back into the cycle (VA SYD, 3, 2015). For example, decomposition method, which is used for Malmö's food waste, allows producing both fertilizer and biogas. Malmö has the most ambitious goal in the world to support the city entirely with renewable energy by 2030, and biogas has a noticeable place in this strategy (Malmö Stad, n.d.: 2). Biogas can be used to generate electricity and heat, but also as fuel for vehicles (Avfall Sverige, 1, 2015). In Malmö it is primarily set to be used in cars – the majority of municipal cars run on biogas, hydrogen or electricity (Malmö Stad, 1, 2015) and biogas cars are promoted to the residents (Malmö Stad, 2, 2015); but also in garbage trucks and city busses (figure 6) (VA SYD, 3, 2015).

Figure 6. MalmöExpressen – line with gas-hybrid busses in Malmö (Skånetrafiken, 2014).

Almost all city busses in Malmö are driven by gas mixture, half of which is biogas and another half – natural gas (Skånetrafiken, 2013: 14). If transport runs on biogas, then 10 kilograms of food waste can support a distance similar to what 1 litre of petrol does (Malmö Stad, n.d.:6). However, it is not Malmö's food waste, but wastewater sludge, that is used to produce biogas for these busses. In fact, all treated food waste is transported to Kristianstad for biogas and fertilizer production, while in Malmö the plans are made to build own production facility (SYSAV, 2, 2015). At the same time, the potential for biogas production in the southern region is probably one of the highest in Sweden with 3TWh that could be produced by 2020, which corresponds to 10% of the energy demand in the region (Malmö Stad, n.d.:2).

Biogas has a number of positive qualities for both society and the environment. It causes less emissions of dangerous substances and can improve the air quality in the city (Malmö Stad, 2, 2015). Biogas is a local energy source that can sustain over time, is renewable, has significantly reduced levels of CO2 and methane emissions and has a valuable fertilizer as its by-product (Biogasportalen, 2015). To fulfil the potential for biogas production that exists in the region, receive all these benefits and contribute to the ambitious environmental goals, behaviour work for increased food waste sorting in Malmö is one of the key elements to work with.

4.3. Key actors promoting food waste sorting

Malmö Stad and VA SYD are the key organisations promoting food waste sorting in Malmö (pers.com., Skog, 1, 2015). Both of them also mention MKB, a municipality owned housing company (MKB, 2015), as a very engaged actor (pers.com., Morfelt, 1, 2015; pers.com., Skog, 1, 2015). All three organisations are included in the case study as the representatives of the social marketer's perspective in this campaign.

4.3.1 Malmö stad

The Municipality of Malmö is located in the southernmost region of Sweden, Skåne, and with its population of more than 300 000 people, it is the biggest municipality in the region and the 3rd in the whole country (SCB, 2014). For two years consecutively, Malmö has been recognised as the best municipality in environmental work in the country (Gunarsson, 2014). The main principles maintained to keep this level of work are focus on sustainable urban development, responsible use of natural resources, making it easy for residents to do right choices and to move from words to action in order to become "*the Sweden's most climate-friendly city*" (Malmö Stad, 2009: 7).

Reducing waste and increasing recycling is one of the objectives in Malmö stad's environmental strategy (Malmö Stad, 2009). Their role in promotion of food waste sorting is mostly supportive – to listen to the residents and make sure that things are working well; but also to help in communicating the connection between food waste and biogas (pers.com., Skog, 2015). Daniel Skog, an environmental communication officer, has 15 years of experience at Malmö stad and is its key person involved in the campaign from the start.

4.3.2 VA SYD

VA SYD is a utility company that takes care of water and waste treatment for more than 500 000 people in the South West Skåne (VA SYD, 2, 2015). They have three priority areas: to make drinking water accessible by making sure it is clean and delivered to residents; to take care of wastewater and storm water by cleaning it and supporting necessary infrastructure; and ensuring that waste is picked from residents and that they understand their role in the chain. VA SYD's vision is to be a leading actor in building sustainable society (VA SYD, 4, 2015), and a big part of this vision is to provide knowledge to residents about the resource, *e.g.* water and waste, cycles (VA SYD, 5, 2015). VA SYD play a direct role in promoting food waste sorting in Malmö, since it is a part of their key responsibilities, and they were the ones who made the initial suggestion for the obligatory collection of organic waste in the municipality (VA SYD, 3, 2015).

Christina Rydholm, communicator, and Ingela Morfeldt, project manager, have been involved in the process from the start and are two key persons in the campaign.

4.3.3 MKB

MKB Fastighets AB, a municipality owned housing company, with their 23000 apartments and 1100 commercial locations is one of the biggest in Sweden and the biggest in Malmö (MKB, 2015). Their goal is to build affordable housing, create pleasant living environments and value for their customers. As a direct link to Malmö's residents, they have effects on recycling behaviour and have contributed to the promotion of food waste sorting with a number of initiatives (pers.com., Truedsson, 2015).

Cecilia Truedsson, an environmental coordinator at MKB, is responsible for day-to-day environmental work, and waste management is a part of it.

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In Sweden and in Malmö in particular, there is a big interest among decision makers in increasing sorting of organic waste. This is mostly due to the potential of such waste to return energy back into the process in form of biogas and bio fertilizer. Biogas has already become an important part of the environmental work in Malmö, and is increasingly used to fuel public transport. Two organisations are actively involved in promoting food waste sorting, namely Malmö Stad and VA SYD, and many other actors are engaged in the work, one of which is MKB. It is expected that the campaign, which started back in 2012, will successfully reach the collection goals, but even more ambitious plans are underway. Next chapter presents the behaviour change work that has been done, as presented by the three case organisations, as well as the perspectives of Malmö residents on sorting.

5 Empirical results

In this chapter, empirical results of the project are presented. They are derived from interviews and examined documents, and then categorised according to two themes that represent two different perspective on food waste sorting in Malmö. The first theme (5.1) contains the perspective of those who have promoted sorting, i.e. VA SYD, Malmö Stad and MKB, and outlines tools that have been used. The second theme (5.2) shows the perceptions of Malmö residents, and it presents the practice of sorting food waste in the city.

5.1 Promoting organic waste sorting in Malmö

First and foremost, the campaign to achieve the set targets for food waste sorting in Malmö consisted of providing access to recycling facilities in all areas of the city (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015). This has been done area by area with the support of communication strategy that stretched throughout the whole campaign (figure 7). There is a good political climate around the environmental work in the municipality (pers.com., Skog, 2015), and there has been a lot of support and engagement of politicians in the process in addition to the fact that the sorting became obligatory for everyone (pers.com., Morfeldt, 1, 2015). As a result, VA SYD decided to focus on *HOW* of the new behaviour, *i.e.* making it easy for people to sort, rather than *WHY* of sorting, though this has been also addressed by the campaign.

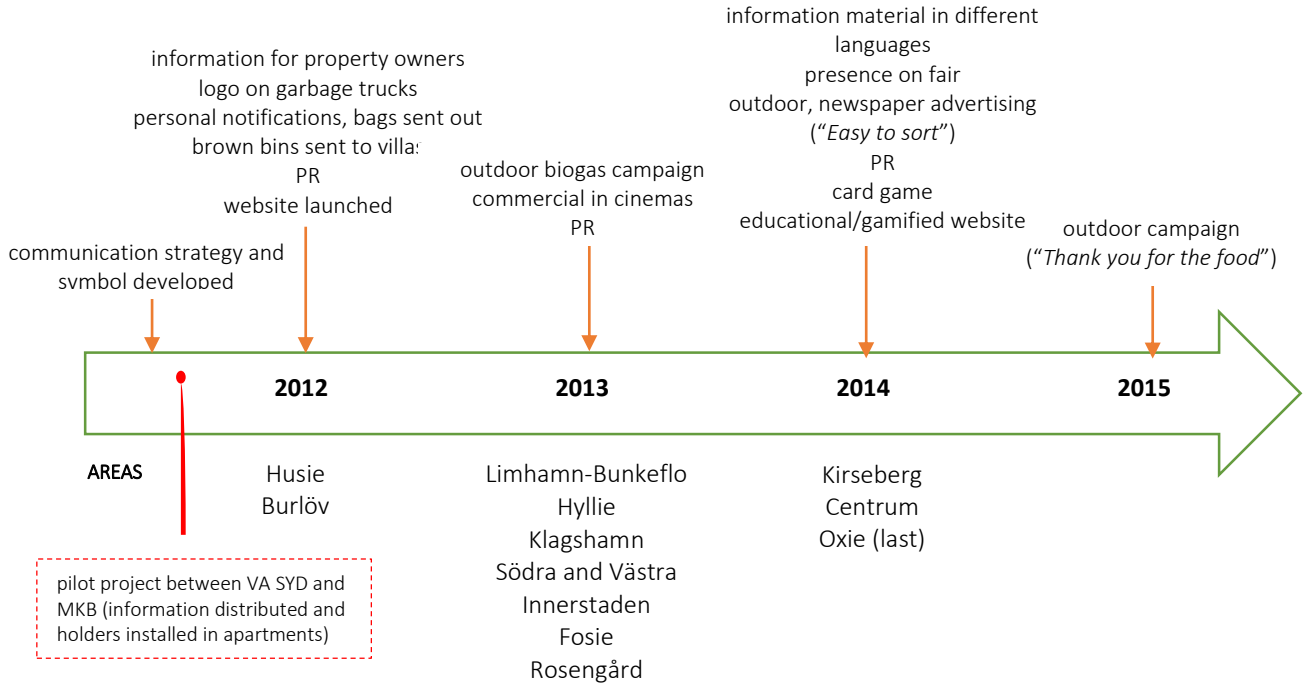

Figure 7. Campaign promoting food waste sorting in Malmö (created by the author).

By the time this study started, all parts of the city had been included in the campaign (but it does not mean that all households had received access to sorting) (pers.com., Morfeldt, 1, 2015). VA SYD are working with different target groups: residents (with specific focus on villas), property owners and businesses. They have also developed information materials in different languages to reach a diverse city population, and various educational tools that can be used in

schools, *e.g.* a card game and a "gamified" website. Overall, communication is done through a great variety of channels to make people notice the new routine, understand it, start sorting and spread the word to their networks (pers.com., Rydholm, 1, 2015). Before the start, the slogan "*Tack för maten*" (Thank you for the food) was put forward as the main brand of the campaign together with a logo of an apple core.

There have been two key objects in the campaign from the start – a paper bag and a plastic holder (figure 8) (pers.com., Rydholm, 1, 2015). One of the reasons for using just this bag is that the local food waste processing plant can work only with this type, but not bioplastic bags, which are popular in some other places. Apart from collecting food waste, the paper bag plays an educational role – it carries tips about how to use the bag and what can be sorted as food waste. The instructions were primarily written in text in the beginning, but later were redesigned into pictures. The bags are distributed to property owners, but can be also picked up at some supermarkets. The bag requires correct handling to avoid problems, like smell and leakages, so a special holder was developed to allow air circulation around the bag (VA SYD, 6, 2015). It is also supposed to help with the common problem among residents – lack of space under a kitchen sink (pers.com., Morfeldt, 1, 2015). Since people tend to store cleaning products there, it might be more convenient for them to have the collector on the cupboard door. The paper bag and the holder play an important role in food waste sorting in Malmö.

Figure 8. Food waste bag in a holder installed under sink (Bernstad, 2014:1319).

As one of the first steps in the campaign, VA SYD met property owners and developed packages with information that would be needed to promote sorting among tenants (pers.com., Morfeldt, 1, 2015). For example, MKB have worked much to make sure that important information reaches their tenants – there might be people standing near waste sorting facilities and giving out brochures; waste management setups have been organised where tenants can learn practically; in some places MKB's staff put holders in the stairs so that the tenants can install them in their apartments (pers.com., Truedsson, 2015). The biggest effort that has been done by MKB started from the pilot study described by Bernstad (2014) –informers knocked on tenants' doors to inform them about sorting, give valuable tips and install the holders under their sinks. This physical intervention, which was marked by Bernstad (2014) as successful and promising, have been implemented in 7000 MKB's apartments around the city.

Both VA SYD (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015) and MKB (pers.com., Truedsson, 2015) are very positive about this way to get people to start sorting.

"If we had the resources, we would go and knock on every door, explain everything and install the holders just as in that project." (pers.com., Rydholm, 1, 2015)

At the same time, MKB do not have any exact numbers, *e.g.* weight of the collected waste, indicating how particular interventions contributed to better sorting among their tenants (pers.com., Truedsson, 2015). Moreover, as Morfeldt (pers.com., 1, 2015) and Rydholm (pers.com., 1, 2015) notice, similar projects are very expensive and time consuming to scale up, and there is a big challenge with people moving in and around Malmö, which makes it crucial to communicate continuously.

The website is one of the major communication sources in the campaign used by VA SYD (pers.com., Rydholm, 2, 2015). It contains exhaustive information on everything from the background of the campaign to particular details of sorting – what is food waste, how to use and where to find the bags, how many people sort in the city and many others (VA SYD, 7, 2015). In addition to this, information booklets are sent out to the residents 8 times a year (pers.com., Rydholm, 1, 2015). They contain useful tips for recycling and how much of the sorting goal has been achieved. All this information is used to show people how easy it is to sort, and this idea was supported by an advertising campaign "*Easy to sort*", which showed that it is easier to recycle food waste then, for example, to make own popcorn or arrange a coffee break (pers.com., Rydholm, 2, 2015).

This idea of convenience and "easy" have not been the only reasoning used in the campaign. Together with food waste sorting, another trend appeared and quickly accelerated in Malmö – biogas (pers.com., Skog, 2015). Since these two trends were tightly related to each other, it was decided to combine them in the communication efforts, and in 2013 the first outdoor advertising campaign started, which showed how food waste could become environmentally friendly fuel for busses (figure 9).

"In the beginning, VA SYD focused a lot on showing how easy it is to sort and how one should do this. These "obligatory" and "easy" ideas helped to make the initial transition in behaviour, make people adopt it. And now we are coming with biogas to show WHY it is good to sort, so that people continue with this positive behaviour." (pers.com., Skog, 2015)

Figure 9. Bus advertisement showing food waste-biogas cycle (pers.com., Rydholm, 2, 2015).

Skånetrafiken, a public transportation company, were active and supported the promotion of the connection between food waste and biogas in their newspapers, emails and website

(pers.com., Skog, 2015). VA SYD and Malmö stad early on saw busses as a very important information channel and a visible element that shows residents the benefits with recycling. The evaluation of this information campaign showed that busses also were the most noticed channel by the surveyed residents (pers.com., Skog, 1, 2015), which repeated in the most recent campaign, which also showed that almost 80% of the respondents were aware of the biogas connection (pers.com., Skog, 2, 2015). This last advertising campaign once again showed the link between food waste and biogas and fertilizer production, and with a slogan "*Thank you for the food*" thanked people for recycling to trigger the social norm effect.

VA SYD have put much attention to triggering social norms and reinforcing group pressure (pers.com., Rydholm, 1, 2015). A number of articles highlighting the progress have been published continuously in local press. VA SYD have repeatedly updated follow-ups with the most relevant collection rates on their website, as well as have sent this information on booklets to their customers. Malmö Stad have also contributed by, for example, posting on their web- and facebook-page that the food waste that had been collected would be enough to run a city bus for 8600000 kilometres (Malmö Stad, 3, 2015). The infrastructure also plays its role, and it is important that people see that others sort (pers.com., Rydholm, 1, 2015). While it is more visible in villa areas, where brown bins stand outside near each house, the situation is different in apartment blocks, where sorting is more private. Besides, garbage disposal units, the system that is gaining popularity in newer areas of the city, have an interesting trade-off in them. While this system might be better from user perspective, *i.e.* more convenient, (pers.com., Rydholm, 1, 2015) and give a better quality food waste (pers.com., Skog, 1, 2015), it makes sorting hidden from others (pers.com., Rydholm, 1, 2015) and skips paper bags, which have an important pedagogical point to uncover how much a person throws away (pers.com., Skog, 1, 2015).

At the same time, the paper bags, and the traditional collection system overall, have been the major reason people's complaints about sorting (pers.com., Rydholm, 1, 2015). Most of such complaints were coming in the beginning and before people actually started sorting food waste, and were primarily related to bags' qualities, related smell and inconvenience. According to VA SYD, one of the reasons for this might be that such people have not read information material, or do not use plastic holders. Moreover, there might be lack of confidence in the bags among people that live in apartments – that the bag will not hold all the way to waste collection stations (pers.com., Truedsson, 2015). As a result, they put their paper bags in plastic bags and then throw away everything together, which is a major problem, and notifications in the stations do not seem to help against it.

However, there are less complaints coming from residents that have actually started sorting (pers.com., Rydholm, 1, 2015; pers.com., Truedsson, 2015).

"Now, that we've actually sorted food waste in most houses for quite some time…the last place where we introduced food waste sorting it was like "oh, it's about time'" (pers.com., Truedsson, 2015)

Community inhabitants see that sorting is becoming more common in the city, and start wondering why they are not doing the same. MKB have even received some calls from areas where there are no facilities with inquiries about existing plans to build such. At the same time, challenges still exists – for example, recycling rates in apartment blocks are still worse than in villa areas (pers.com., Skog, 1, 2015). Much work has been done to promote food waste sorting, and there is more lying ahead.

5.2 Practice of sorting organic waste

Three topics, or stages, of food waste sorting were identified in the narratives of the interviewed residents. They describe how they started to sort (5.2.1), and what was that got them into the new practice, or prevented from starting in the first place. Then, they focus much on things that worked and did not work as they kept sorting (5.2.1, 5.2.2). Finally, attention is shifted to the reasons for continuing doing this, and reflections on how others could be persuaded to engage too (5.2.3). These stages are graphically presented in Chapter 6.

5.2.1 Starting to sort

Sorting food waste started differently for the interviewees, and they vividly recall those first days. Kristina (pers.com., 2015) knew well about the benefits with sorting and even initiated it in her neighbourhood. For some it came naturally – together with information booklets and equipment (pers.com., Jelena, 2015) or with the help of long previous experience of doing this somewhere else (pers.com., Lena, 2015). For others it became a surprising challenge.

"We recycle everything – plastic here, carton there. So when that came, it was like: "Oh no! Not more to recycle!"…It was just too complicated." (pers.com., Anders, 2015).

The new task disturbed the daily routines and felt overwhelming (pers.com., Kristina, 2015), but they did it anyway. It mostly became a question of organizing a place to make it as easy as possible (pers.com., Anders, 2015). Once started, sorting became a habit very quickly for many (pers.com., Janna, 2015; pers.com., Henrik, 2015; pers.com., Kristina, 2015) and was not longer perceived as taking too much energy as in the beginning (pers.com., Bengt, 2015).

In fact, when instructions and bags were readily available, it seemed natural to start sorting (pers.com., Jelena, 2015), especially for those with previous knowledge about this who just had been waiting for the possibility to start (pers.com., Mikael, 2015). Some unexpected events also affected the process.

"When I moved in to this flat, there were already some bags left from the person who lived there before. Otherwise, I wouldn't know where to get them." (pers.com., Janna, 2015)

The frustration of finding the bags, as well as sacrificing her time for this is described by Loka (pers.com., 2015), who does not have any bags in her student house, as something that stops her from sorting. She does not see any way to fit this into her daily schedule. At the same time, Anders (pers.com., 2015), who received some bags in the beginning, spent much effort to ask around and to research where one can get new bags once they were out.

Bags have a noticeable place in the attitudes of Malmö residents. According to the previous phone survey, a vast majority of people in the city are positive towards food waste recycling, but not all of them are doing it (pers.com., Skog, 2, 2015). While it is primarily connected to the lacking infrastructure, 40% of non-recyclers expressed other reasons for this. Inconvenience and laziness are some of them, while bag qualities is another. They are described as useless, too small (pers.com., Skog, 2, 2015), "*badly made"*, *"not usable"* and *"always dripping on stairs and elevators"* (Sydsvenskan, 2014).

Those who do recycle pay similarly big attention to bags in their narratives. While some experience no problems whatsoever (pers.com., Bengt, 2015; pers.com., Lena, 2015), others remember many *"annoying"* (pers.com., Jelena, 2015) things. However, the difference is that in this case, the negative experiences are always balanced with something. Janna (pers.com., 2015) says while the bags cause mess, it is not significant enough to worry about. Some apply

different tips, like putting extra paper in the bottom or using an extra bag, which they learned from different sources – attentively reading provided information (pers.com., Jelena, 2015; pers.com., Kristina, 2015), from previous experience (pers.com., Mikael, 2015; pers.com., Lena, 2015) or just something they heard around (pers.com., Seyed, 2015).

"Yes, I've had quite some problems with the bags, but whatever – I just have to go out with the garbage more often" (pers.com., Henrik, 2015)

Therefore, while bags do cause certain inconvenience, the continuing recyclers either learn the ways to minimize the problems, or just do not perceive them as serious.

Moreover, the holder is perceived as a good thing to solve some of these problems, *e.g.* smell, and to resolve the problem with lack of space (pers.com., Mikael, 2015). From Kristina's experience (pers.com., 2015), this new sorting does not really fit into a standard kitchen. In her previous smaller apartment, she had to keep the bag outside of the sink cupboard, which felt *"very weird"*. At the same time, some people find creative ways of solving the problem. For example, Anders (pers.com., 2015) proudly showed the system he created and built himself – a number of bins are rolling in and out on a rail structure, which makes it easy to fit many things under the sink. He did all this in order to make food waste sorting as automatic and routinized as possible.

5.2.2 Sorting right

While perceiving sorting food waste as becoming easier, people might still make some mistakes in performing this activity.

"You know, it's very easy…[shows his food waste collector and suddenly picks a plastic butter package from it]…Ooops! It's not very right in the moment. I was in a hurry!" (pers.com., Anders, 2015)

Having much to recycle, and to do overall, causes overwhelming feelings and leads to making mistakes – throwing garbage in wrong bins (*ibid*.). This happens so often, that Anders thinks there should be anecdotes discussed by people. It takes effort to make sure one sorts right even after one feels well-acquainted with doing this (pers.com., Bengt, 2015). Even more challenging is to remind yourself that throwing food to burnable waste is not right any more (pers.com., Kristina, 2015).

"One has learned that it is normal [to sort food waste]. Even my son knows it – they have it in the kindergarten. So it is very natural that we do it at home" (*ibid*.)

It is one step to start sorting food waste, but some also pay close attention that this is being done correctly.

Another challenge is hidden in the fact that sorting food waste and cooking are connected. For example, Jelena's (pers.com., 2015) boyfriend had not recycled food waste before she moved in and started to cook, which he had not done at home before. There are certain things that are allowed and not allowed in a food waste bin and such connection means that there might be no time for googling this (*ibid.*; pers.com., Mikael, 2015; pers.com., Anders, 2015). Anders says that he and his friends mostly assume what to throw away. He still has old bags, which have text instructions on them, and he has never noticed these instructions. When he is shown new bags with graphics, he thinks that they might indeed help him. Mikael recalls that when he explains someone about food waste sorting, he always has to tell about what can be recycled.

"People always think about the basics – like fruit peels or vegetables, they don't think you can put much more in there" (pers.com., Mikael, 2015).

As food waste sorting is a part of many kitchen routines, some feel need in convenient tools that can help to sort correctly.

5.2.3 Reasons for sorting/not sorting

The survey results show that a vast majority of people report care for the environment as their primary reason for sorting food waste (pers.com., Skog, 2, 2015). The interviewees also bring up this point, but most have hard times elaborating on it.

"When you have two kids, it's very hard to keep updated. Maybe a couple of years ago I had time to put myself into it" (pers.com., Anders, 2015)

There might be no time to learn the particularities, and just the knowledge that it does something good to the environment is enough to keep doing it "*without thinking*" (*ibid.*).

"*I know this is good for the environment, but why and how…*" (pers.com., Jelena, 2015)

Some can just assume the potential benefits (pers.com., Henrik, 2015; pers.com., Lena, 2015), while others trust the municipality in promoting right actions (pers.com., Mikael, 2015).

However, more elaborated and engaged opinions appear around the questions of resources and biogas. For example, Petter (pers.com., 2015) makes a clear difference between *"throwing away*" and "*recycling*". Understanding that food waste becomes "*something good*" motivates even Bengt (pers.com., 2015), who generally is not keen to throw away food. The connection with biogas is a strong motivation, and according to the survey, 80% of the residents know about biogas from some sources (pers.com., Skog, 2, 2015). In narratives, biogas is embodied in busses, which make food waste sorting visible (pers.com., Mikael, 2015) and rewarding (pers.com., Janna, 2015).

"I like this last campaign – "Thank you for the food"! Everyone is sorting anyway, right? Like a routine…but you sit on the bus and there is this "Thank you" on it" – and you feel good…and like: "You are welcome!" (pers.com., Jelena, 2015)

They also provide good arguments against non-recyclers.

"You really feel that it gives benefits…and it became so clear and obvious! So some had those arguments that there is no meaning in sorting food waste, because everything will end up in one waste collector. But now it's very obvious it's not true!" (pers.com., Kristina, 2015)

Biogas busses motivate those who recycle, and also are seen as a way to persuade sceptics to do this.

Some interviewees feel like there are many people in their circles who are sceptical or negative towards sorting. Anders (pers.comm, 2015) repeatedly mentions that some of his friends and colleagues do not believe that recycled waste is actually put to any value and think that it is being promoted only for business-sake.

"*We talked a lot about this. If I do everything right, food waste and everything, but she doesn't do it, he doesn't do it, and then VA SYD and the municipality don't do that either. What's the point if everything goes down the drain?*" (*ibid*.)

It is not only about scepticism regarding the outcomes, but also not knowing if others are doing their share. While the interviewees think that it is good to have food waste sorting mandatory, some also express concerns that others might not like it and react aversively to such force (pers.com., Bengt, 2015), and this has been mentioned as *"soviet-like"* by one of the critics (Sydsvenskan, 2014).

Many interviewees also agree that making it easier for people, who refuse to sort, can help them start (pers.com., Anders, 2015; pers.com., Henrik, 2015; pers.com., Lena, 2015). Henrik says that the idea that it is so easy to make a good contribution motivates him the most, and thus this is how he persuades people around him to start sorting too. However, not everyone is similarly positive about the others' habits, especially those living in apartment blocks where some of the residents throw away plastic bags in food containers (pers.com., Kristina, 2015; pers.com., Petter, 2015). Petter is very negative towards this and thinks that many in his house and even in the city "*don't care whatsoever*" about sorting. Moreover, while brown bins clearly show that people recycle in villa areas, it is absolutely invisible in big blocks of houses (pers.com., Janna, 2015) and in the city in general.

At the same time, interviewees, who recently moved to Malmö, instantly perceived sorting food waste as a given (pers.com., Jelena, 2015; pers.com., Mikael, 2015). They see it as normal as "*brushing your teeth*" – a habit that *"everyone is good at*".

"She [Jelena] is from Serbia, where there is no recycling, and I am from France, where we have a little, but suddenly we are in Malmö that is fully committed to doing it, and you learn by default" (pers.com., Mikael, 2015)

This image motivates even some of the newcomers that have no infrastructure in their accommodation. Some students have repeatedly demanded the university's housing office to provide them with recycling station for food waste (pers.com., Jelena, 2015).

"*We heard that everyone in the city is sorting their food waste, and we thought why we don't this!"* (pers.com., Kyle, Aurore & Yulia, 2015)

In some cases, people have even started sorting their food waste in the kitchen, but then have to throw it in the general waste (pers.com., Jelena, 2015). Understanding the benefits (*e.g.* biogas busses) and the perception that it is normal motivates some to start recycling and seek for ways to create access to doing so.

6 Analysis

*In this chapter, the empirical results are analysed with the help of the theories and the conceptual framework developed in Chapter 2. First, the Social marketing mix model (2.1) and the **CBSM** strategy model (2.3) are examined for their relevance for the campaign in Malmö. Then, the analysis focus shifts towards practices (2.4, 2.5). Finally, a closer look is taken to the residents' narratives to understand how they describe their adoption of food waste sorting and what consequences this has for the aim of this project.*

6.1 Looking for a suitable strategy framework

Since its start, the campaign that aims to increase food waste sorting in Malmö has employed a vast number of different activities (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015). In the beginning, a strategy was developed that described how the implementation would happen step-by-step and which communication tools would be used on the way (pers.com., Rydholm, 2, 2015). Traditionally, marketing applies the marketing mix model to structure and improve the strategy, and Peattie & Peattie (2009) suggest a similar approach to social marketing (figure 10).

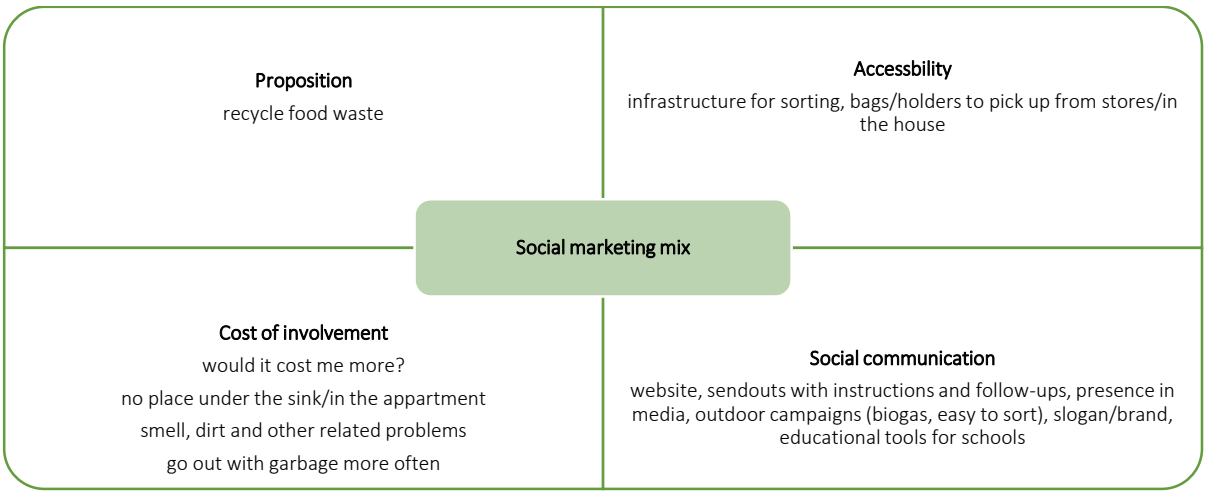

Figure 10. Social marketing mix for the case campaign (based on Peattie & Peattie, 2009:263-264, modified by the author).

As Peattie & Peattie (2009) suggest, this campaign can be presented as the sum of four elements: proposition, accessibility, cost of involvement and social communication. The campaign is set to promote sorting of food waste (*proposition*), a behaviour that had been present before the start of the campaign, but in insufficient scale, so the effort was taken to increase it (VA SYD, 3, 2015). Creating infrastructure (*accessibility*) has been the key focus and the strategy base from the start (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015; pers.com., Skog, 1, 2015). Step by step, all areas of the city has been prepared for recycling, bags and specially designed holders have been made available in local stores, and to pick up in the house (pers.com., Truedsson, 2015). Regarding possible barriers (*cost of involvement*), VA SYD identified factors like lacking place under the sink, inconvenience related to sorting process and possible costs for target groups (pers.com., Rydholm, 1, 2015). Some of these barriers have been approached by creating information on how to handle the bags and use the holders, and it was ensured that it would not cost more to people to actually recycle their food

waste, *e.g.* free bins were delivered to villas (pers.com., Skog, 1, 2015). Finally a wide set of *communication* tools and channels have been applied to promote sorting (pers.com., Rydholm, 2, 2015).

At the same time, the Social marketing mix model (Peattie & Peattie, 2009) is not sufficient to describe the campaign in Malmö in its details. Firstly, there have been many partnerships around the campaign, which has provided certain benefits to the process (pers.com., Morfeldt, 1,2015; pers.com., Skog, 1, 2015). For example, Avfall Sverige, the Swedish Waste Management and Recycling association, that provided networking and knowledge exchange (pers.com., Morfeldt, 1, 2015); Skånetrafiken, the public transport company in Malmö, that supported the food waste-biogas connection (pers.com., Skog, 1, 2015); different biogas actors; project between VA SYD and MKB, when bags, holders and information was distributed directly to tenants (pers.com., Truedsson, 2015). Secondly, the campaign in Malmö has been directed to a very diverse population and different target groups (pers.com., Rydholm, 1, 2015), which cannot be depicted in the model. In other words, the Social marketing mix model (Peattie & Peattie, 2009) seem to miss a number of external factors, which play an important role in the campaign.

Working with Social marketing mix also assumes that behaviour change is a voluntary process (Cherrier & Gurrieri, 2014), which is hardly the case with this campaign. When food waste sorting was voluntary, there was an insignificant portion of residents that recycled (VA SYD, 3, 2015). Even though no fines have been used, the decision to make sorting mandatory led to a strong political support for the campaign, which created good working climate (pers.com., Rydholm, 1, 2015). Moreover, from phone surveys (pers.com., Skog, 2, 2015), interviews with residents conducted for this research and online comments (Sydsvenskan, 2014), it can be seen that mostly physical reasons, *e.g.* smell, other inconvenience and lack of infrastructure, have caused resistance from non-recyclers, and accordingly many physical interventions, *e.g.* change in infrastructure, have been made to accommodate sorting (pers.com., Rydholm, 2, 2015). Thus, much upstream work have been conducted in the campaign, which is hard to catch with a pure marketing perspective.

Malmö, just as its areas and neighbourhoods, is a community defined by geographical borders. **CBSM** model, which provides an alternative to marketing approaches (McKenzie-Mohr and Schultz (2014; 1999) can also be used to describe the campaign (figure 11).

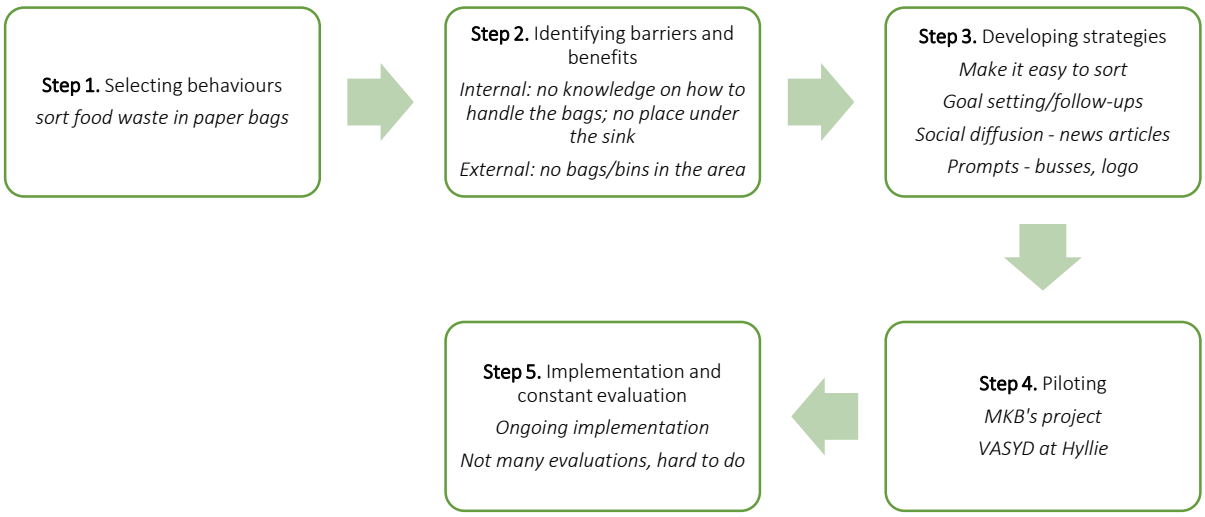

*Figure 11. Example of **CBSM** approach for the case campaign (based on McKenzie-Mohr & Schultz, 2014:36-37; modified by the author).*

McKenzie-Mohr & Schultz (2014) recommend that the strategy starts from defining a non-divisible target behaviour. In Malmö, the biggest attention has been devoted to promote sorting food waste using paper bags (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015; pers.com., Skog, 1, 2015). Such narrowed focus can make it easier to list possible barriers to behaviour, *e.g.* no knowledge in how to handle the bags or no place under the sink (pers.com., Rydholm, 1, 2015), as well as to appreciate the importance of infrastructure. Consequently, effective strategy can be crafted, *e.g.* with focus on convenience or on activating social norms to engage more people into sorting. For example, the MKB's project, which is, according to Bernstad (2014), primarily based on **CBSM** tools, is seen as a very positive input into the campaign (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015; pers.com., Truedsson, 2015).

However, real-life large-scale behaviour change campaigns, like the one in Malmö, have some constraints – budget, time, as well as diverse and dynamic population (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015; pers.com., Truedsson, 2015). VA SYD, Malmö Stad and MKB collect some data on the interventions, like surveys after the outdoor campaigns (pers.com., Skog, 1, 2015) or selective mis-sorting checks (pers.com., Rydholm, 2015). However, given that communication has to be done continuously and that there are so many interventions that take place simultaneously, no definite insights exist regarding the effects of each action. Thus, a linear strategy framework like **CBSM** might not be suitable in this case, and other options are need to organize all implemented interventions.

6.2 Changing focus towards practices

In this sub-chapter, the conceptual framework, which is developed in Chapter 2, is introduced to analyse the campaign in Malmö (figure 12).

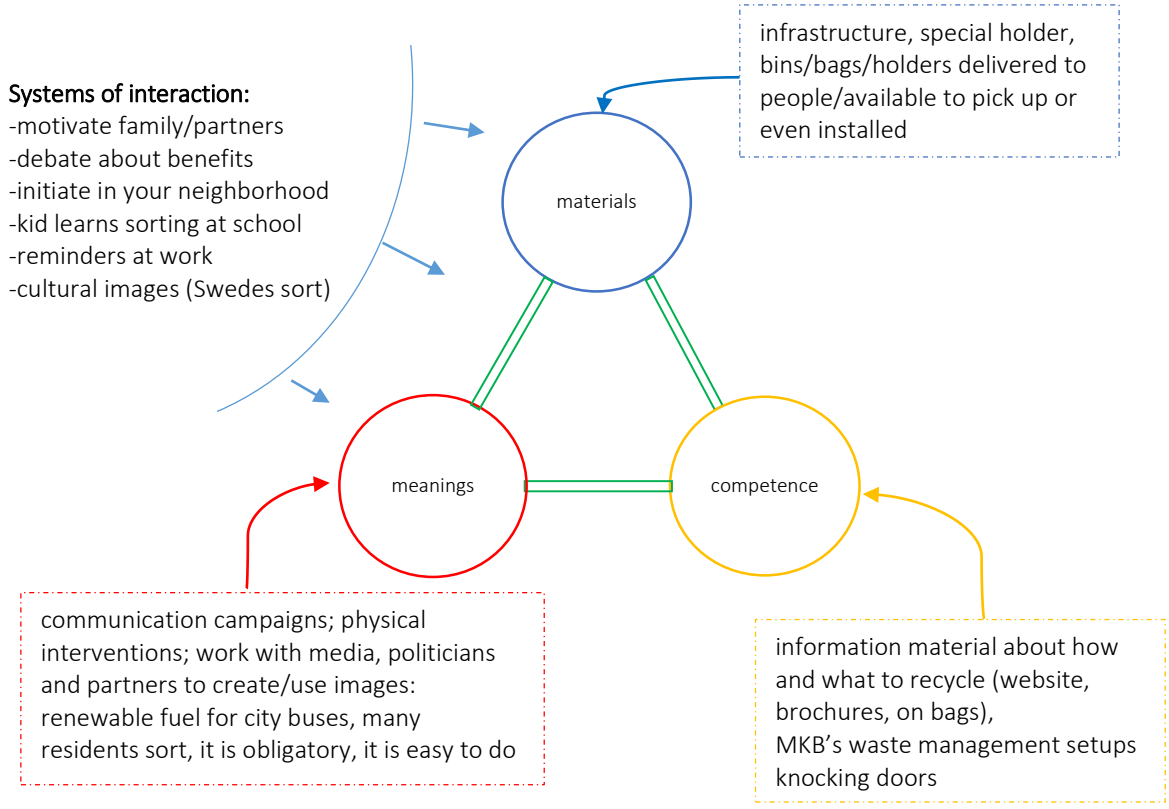

Figure 12. Proposed strategy framework for the case campaign.

This conceptual framework is an inclusive way to analyse the implemented interventions, since the attention is paid to a variety of behaviour change tools and the perspectives of both marketers and residents are considered. The analysis is done according to three elements of practice identified by Shove *et al.* (2012), *i.e.* materials, competences and meanings, and with attention to different systems of interactions proposed by Bronfenbrenner (1979) and interpreted by Rettie *et al*. (2012:424).

6.2.1 Materials

Materials should be created or changed in order to bring a new practice into being (Spurling *et al.*, 2013). All necessary means of adoption need to be available (Peattie & Peattie, 2009), and changes in infrastructure are the most effective ways to ensure this (Gordon, 2013). In Malmö, much focus has been put just on creating possibilities for everyone to start sorting: facilities have been organized and are still being built around the city (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015; pers.com., Truedsson, 2015); bags have been sent out to people or made available in local stores to pick up (pers.com., Rydholm, 1, 2015). Creating supporting environments can trigger behaviour change (Hoek & Jones, 2011), and residents felt it was natural to start when everything is so readily available (pers.com., Jelena, 2015; pers.com., Lena, 2015).

One step forward from accessibility is to make it as convenient as possible to act right (McKenzie-Mohr & Schultz, 2014). Indeed, even with available infrastructure, the adoption of behaviour do not necessarily happen that easy. Convenience has become a decisive factor in peoples' lifestyles (Shove, 2003): some people might not even have time to go and pick up paper bags from the store nearby (pers.com., Loka, 2015), or can become distressed with something that breaks the routines at home (pers.com., Anders, 2015; pers.com., Kristina, 2015). For Janna (pers.com., 2015), this convenience became a matter of coincidence, when a previous tenants left some bags behind. Moreover, a number of things have been done that might have increased convenience for people: special holder was developed that would solve the problem with lack of space and inconvenience (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015), and some people even got these holders installed in their apartment during the project by MKB and VA SYD (pers.com., Truedsson, 2015), which according to pilots resulted in increased recycling (Bernstad, 2014).

Choice editing (McKenzie-Mohr & Schultz 2014; Spotswood, 2012) and nudging (Thaler & Sunstein, 2009) is also an effective and straightforward way to get a person started with new behaviour. The project by MKB and VA SYD is one example in this campaign. Maybe a less obvious one, but still very relevant, is sending out brown bins to all villas (pers.com., Rydholm, 2, 2015). A person who lives in a villa neighbourhood can clearly see that it is everyone who received the bin and assume that it is now a norm to have it and recycle (pers.com., Lena, 2015). For Anders (pers.com., 2015) receiving the bin became the beginning of a long journey – he arranged place in the kitchen to accommodate food waste sorting and purposefully looked for bags around his neighbourhood. Getting a holder installed under the sink or receiving a brown bin to the villa are examples when people are nudged to a new behaviour instead of being offered a choice to pick up these material themselves.

The importance of convenience in this campaign is also indicated by the fact that the lack of such is mentioned as the most common reason for not sorting (pers.com., Skog, 2, 2015). For example, bag qualities have reportedly stopped some from sorting – they might cause smell or drip (Sydsvenskan, 2014). It would probably more convenient for people to sort with bioplastic bags (pers.com., Seyed, 2015), but they cannot be processed by the local facility (pers.com.,

Rydholm, 1, 2015). Garbage disposal units would probably minimize the efforts associated with sorting, but they can also undermine social diffusion (*ibid.*) and negatively affect how much food a person wastes (pers.com., Skog, 1, 2015). Convenience in real life can be a relative factor, which depends on the external conditions and creates dangerous trade-offs.

Providing and improving materials by creating necessary infrastructure and making it convenient to act right is an effective way to engage people in food waste sorting in Malmö.

6.2.2 Competences

People tend to gain necessary skills and knowledge if they engage in practice (Shove *et al.*, 2012). The results show those who recycle have also had repeating problems with bags, but with the help of information material, experience or tips from others they have learned to avoid or at least minimise them (pers.com., Jelena, 2015; pers.com., Kristina, 2015; pers.com., Lena, 2015; pers.com., Mikael, 2015; pers.com., Seyed, 2015). Practice career is a continuous process, and might depend on commitment of practitioners (Warde, 2005). Some residents realise that they still can make mistakes – put things in wrong bins, and dedicate effort to picking such things up and re-sorting them in the right place (pers.com., Anders, 2015; pers.com., Bengts, 2015).

If such commitment is not present, or person is not yet engaged in the process, information campaigns can help to affect competences (Spurling *et al.*, 2013). VA SYD created a website with all necessary information, have continuously sent out information brochures, work with engaging material for schools (pers.com., Rydholm, 1, 2015). The information has also been translated to different languages to reach the diverse population of Malmö. MKB have also done much work to ensure that the information about sorting reaches their tenants – by distributing information brochures, arranging waste management setups and knocking tenants' doors (pers.com., Truedsson, 2015). Besides, residents can help each other with tips in addition to such efforts (pers.com., Mikael, 2015; pers.com., Seyed, 2015). Overall, almost all interviewed residents received helpful information and could bring up at least some of the learned tips.

At the same time, there are still people who are negative towards bags qualities and choose not to recycle because of this (pers.com., Skog, 2, 2015; Sydsvenskan, 2014). One reason might be that people have not been reached or ignored the information material, thus are not aware of the ways to avoid such problems (pers.com., Rydholm, 1, 2015). The communication means can also play a decisive role. One example is that with food waste it is important to understand what can be recycled, and Anders (pers.com., 2015) has a big problem to find time to check whether he can sort a particular thing while cooking. New bags, on which the instructions are done in graphical form instead of text (pers.com., Rydholm, 2, 2015), might be a better way to communicate this message. Another example is the problem when people put full paper bags in plastic bags and throw them away together in food waste collectors (pers.com., Truedsson, 2015). MKB have placed information posters in recycling rooms to prevent this; this information is also present on the website and information brochures (pers.com., Rydholm, 2, 2015), but it has not had a desired effect on everyone.

Competences are a decisive factor in people's career with practices, and the main challenge with affecting competences related to food waste sorting in Malmö is to find relevant education tools and effective communication to deliver them.

6.2.3 Meanings

Elements of practices are interrelated and can affect each other, so meanings can change naturally over time (Shove *et al.*, 2012). In this case study, the interviewed residence have gone through the transition process from new, and for some disturbing, routine to an absolutely natural habit. Mikael (pers.com., 2015) and Henrik (pers.com., 2015) even admit that it is a very standardized act for them – just do it and rarely think about other benefits. At the same time, meanings can also be modified and created with the help of social marketing interventions (Spurling *et al.*, 2013). What social marketing can do here is to create an attractive proposition (Hoek & Jones, 2011) and use relevant communication to make target audience interested in the message (Peattie & Peattie, 2009). In this campaign, a number of images have been proposed to the residents – food waste becomes environmentally friendly fuel for buses, many others sort their food waste, that it is a political decision and that it is easy to sort (pers.com., Morfeldt, 1, 2015; pers.com., Rydholm, 1, 2015; pers.com., Skog, 1, 2015).

Nicholls & Strengers (2014) propose that identifying and communicating shared benefits coming from a new behaviour can positively affected residents' attitudes towards it. Shared benefits might also have a strong effect on meanings for a particular practice. In Malmö, the connection between food waste sorting and biogas became one of the central messages in the campaign process (pers.com., Skog, 1, 2015). While struggling with elaborating on environmental benefits of sorting (pers.com., Anders, 2015; pers.com., Jelena, 2015), the interviewees provide very rich narratives about biogas and city buses (pers.cohm., Bengt, 2015; pers.com., Janna, 2015; pers.com., Mikael, 2015; pers.com., Petter, 2015). The fact that food waste becomes a valuable resource that can fuel buses in the city gives rewarding feelings. Haldeman & Turner (2009) argue that for increased recycling it is crucial to show the practical outcomes of the behaviour. In fact, it can help even more – when there is such an obvious proof of benefits from recycling, like biogas buses, one can use it in arguments against sceptics (pers.com., Kristina, 2015), and become an ambassador for the practice.

Some activities can gradually become more common and substitute their old alternatives (Rettie *et al.*, 2012). For example, food waste sorting for biogas production needs to become a new normal, while throwing food to burnable waste, which can also produce energy, needs to disappear. Kristina (pers.com., 2015) mentions that she often has to remind herself about this. Normalisation of behaviour can be reinforced (Rettie *et al.*, 2012), since people tend to imitate the majority (van Vugt *et al.*, 2014). One way to do it is through physical interventions that make new behaviour visible for everyone (McKenzie-Mohr & Schultz, 2014). Sending out brown bins to all villas was then a good move, since people get reassured that their neighbours also recycle (pers.com., Anders, 2015; pers.com., Lena, 2015).

However, it is more challenging to uncover recycling in other city areas, and the interviewees agree that there are no clear signs in the city that indicate that many are sorting. According to Gordon (2013), upstream interventions, like opinion building, can change people's perceptions about behaviour. In this campaign, many articles have been published in local newspapers to cover the progress and politicians have been very engaged (pers.com., Rydholm, 1, 2015). Partnerships with different actors can also increase the presence (Lagarde, 2012), and much exchange have occurred between VA SYD, Malmö stad, MKB, transport company, waste and biogas organisations. Moreover, goal setting and feedback can trigger social diffusion (McKenzie-Mohr & Schultz, 2014), and VA SYD have repeatedly sent out brochures with follow-ups on sorting targets in the city (pers.com., Rydholm, 1, 2015), while the last outdoor campaign thanked the residents for good progress in sorting (pers.com., Skog, 2015). Various downstream and upstream tools can be applied to normalise a behaviour.

There were two messages that have dominated in the campaign, or at least did it in the beginning – that is a political decision that everyone has to sort food waste and that it is actually easy to sort (pers.com., Skog, 1, 2015). Understanding and changing social and physical environments has enormous impact on behaviour adoption (Cherrier & Gurrieri, 2014). For example, VA SYD realise that people in Sweden tend to have positive predisposition to political decisions, so from the very start the "*obligatory*" idea was present in all send-outs that notified people about new routines (pers.com., Morfeldt, 2015; pers.com., Rydholm, 1, 2015). The interviewed residents have mixed feelings about this – while everyone is positive about this in general, some are concerned that it might scare off many people (pers.com., Bengt, 2015). Judging from own experiences, the interviewees think "*easiness*" should be put forward instead (pers.com., Anders, 2015; pers.com., Henrik, 2015; pers.com., Lena, 2015). This is also done in the campaign through all the physical interventions, *e.g.* infrastructure and MKB's project, to communication, showing how simple sorting is (pers.com., Rydholm, 2, 2015). Once again, with the help of both upstream and downstream work, the campaign creates two strong meanings – it is obligatory and easy to sort food waste.

Meanings can develop together with practitioners' engagement in new practice. They can vary significantly from person to person. Moreover, a variety of meanings can be introduced by means of social marketing, and some of the strongest community-based meanings in Malmö are shared benefits, social norms and convenience.

6.2.4 Systems of interaction

So far, the analysis has mostly covered the effects of the controlled interventions. However, the study shows that a number of uncontrolled factors have influenced food waste sorting adoption by the interviewees. According to Ecological Systems Theory (Bronfenbrenner, 1979) individuals interact on different levels: macro-(culture), exo-(community), meso-(organisational, institutional) and micro-(individual and interpersonal) (Bronfenbrenner, 1979 in Rettie *et al*, 2012:424). In this case, people have been affected by relations with partners, family, neighbourhood and at work, and food waste sorting is found to be connected to some other practices like recycling in general and cooking.

Peoples immediate environments, e.g. family, school, work or neighbourhood (Bronfenbrenner, 1979), affect them. Personalities and relations with partners and family have their effects on some of the interviewees. Andreas (pers.com., 2015) considers himself a very determined person, and while his partner is not really into putting extra efforts in sorting food waste, he motivates the whole family into the practice. Jelena (pers.com., 2015) has also affected her partner, who had not sorted before she moved in with him; and also remembers how she herself gets reminded about sorting at work, where they have signs about this. Such influence can also take place on the neighbourhood level, like in case of Kristina (pers.com., 2015) who initiated sorting during a member tenant meeting in the apartment block area where she lives.

Bronfenbrenner (1979) argues that the connections between immediate environments have impact. Kristina (pers.com., 2015) brings up an interesting fact that in the kindergarten, where her child goes, they have a recycling machine to educate children about waste management and sustainability. She can hardly imagine parents that do not sort food waste at home in such case when their child knows about benefits from sorting. Macrosystems, such as culture (*ibid.*), also matter, and both Mikael and Jelena (pers.com., 2015) remember vividly that when they arrived to Malmö it just stroke them as a place where everyone is dedicated to recycling. Thus, it seemed strange not to join too.

Finally, different practices have strong connections between each other and can have an interactive effect on everyday life (Shove *et al.*, 2012). Jelena (pers.com., 2015) explains that her partner had not sorted before she move in because he does not cook. In other words, he used to have food waste, but not enough to consider sorting it separately. Once she move in and started cooking at home, it was harder for him to ignore the waste, and he agreed to start sorting. The similar effect is observed with Henrik (pers.com., 2015), who had not recycled much before he started sorting organic waste. Once he organised the space for new bin, he gradually started recycling more and more things: different types of glass, newspapers and other things, with which he was not so rigorous before. These two stories show how practices can affect each other in the everyday systems of interactions.

The adoption of new behaviour does not happen exclusively due to deliberate interventions. The reciprocal relations between individuals and their environments can cause unpredictable effects on the development of practices. Individuals affect and are affected by relations with partners, family, neighbourhood, by their workplaces and even other activities; and they can become ambassadors for practice engaging more people in it.

6.3 Career of practice and practitioners

According to **SPT**, the questions is not only whether a person carries or does not carry a certain practice, but rather how a person develops a career within it (Shove *et al.*, 2012). Practitioners can have different levels of engagement and expertise as they go from behaviour adoption to its maintenance. Three stages are identified in the residents' narratives: how they started to sort (or why they do not sort); what worked/did not work as they kept sorting (or why they do not keep doing it); and why they actually continue sorting (table 4).

Table 4. Three 'stages' in the narratives of Malmö residents about sorting food waste.

Behaviour	Start	Try/Do	Reasons to continue
Sort	-received bag/holder/bin/information material so it was natural to start -knew benefits and initiated in the neighbourhood	-many practical problems, but solve: instructions with tips, experience, tips from others -mistakes all the time so need to learn -no time to read instructions when cooking -put into garbage in a plastic bag	-everyone is doing it -it brings tangible benefits like fuel for buses -good way to treat valuable resource -easy to do right thing
Do not sort	-do not have bags/holders in the house and no time to look for them -no access, but know benefits and that others do it and try to initiate this	-bags of bad quality, useless, cause smell, dirt and other problems -sceptical about benefits	

Almost everyone remembers that they started together with receiving materials – be that bins (villas), bags, holders (or both together) and attached information. One interviewed non-

recycler have not started simply because she has no time to pick up the bags, which are unavailable at her house. As they kept sorting, a number of practical problems occurred or mistakes were made. In other words, knowledge and skills needed constant updating, and while some had previous experience to deal with this, others resided to information or tips from friends. At the same time, some people, whose opinions are collected through secondary sources (pers.com., Skog, 2, 2015; Sydsvenskan, 2014), might have dropped out because they could not deal with these problems. Finally, regarding reasons to continue, different meanings were offered by the interviewees as explanations – because everyone is doing it, it brings tangible benefits like fuel for buses, it is a good way to treat valuable resource and it is actually easy to do such a good thing. In brief, the narratives move from purely material focus, through competence and towards meanings.

As more people engage in and carry on a certain practice, the practice itself and its meanings start evolving (Shove *et al.*, 2012). While some started sorting in the campaign's pace, *i.e.* received materials, information, saw advertisements and so on, others have had another way (the green arrow in table 4). The accumulated meanings, such as normality or biogas connection, have had a strong effect on people that did not originally have any possibility to sort. For example, Kyle, Aurore & Yulia (pers.com., 2015) knew that *"the whole city"* was sorting and that this can fuel city busses, so they and other students started complaining why they could not do the same. Truedsson (pers.com., 2015) also mentions that MKB have received a number of requests from their tenants to build infrastructure in their areas. People can also act as ambassadors and agitate others, like Kristina (pers.com., 2015) who initiated sorting in her neighbourhood. Finally, the meaning of normality, that the majority is engaged in the practice, can affect community newcomers, like Mikael and Jelena (pers.com., 2015) who say that sorting took them as a wave – it seemed extremely normal from the beginning.

Returning to the elements of practice (Shove *et al.*, 2012), understanding of how career of practices and practitioners develop might assist social marketers in choosing tools that are particularly relevant for a certain stage of practice adoption (figure 13).

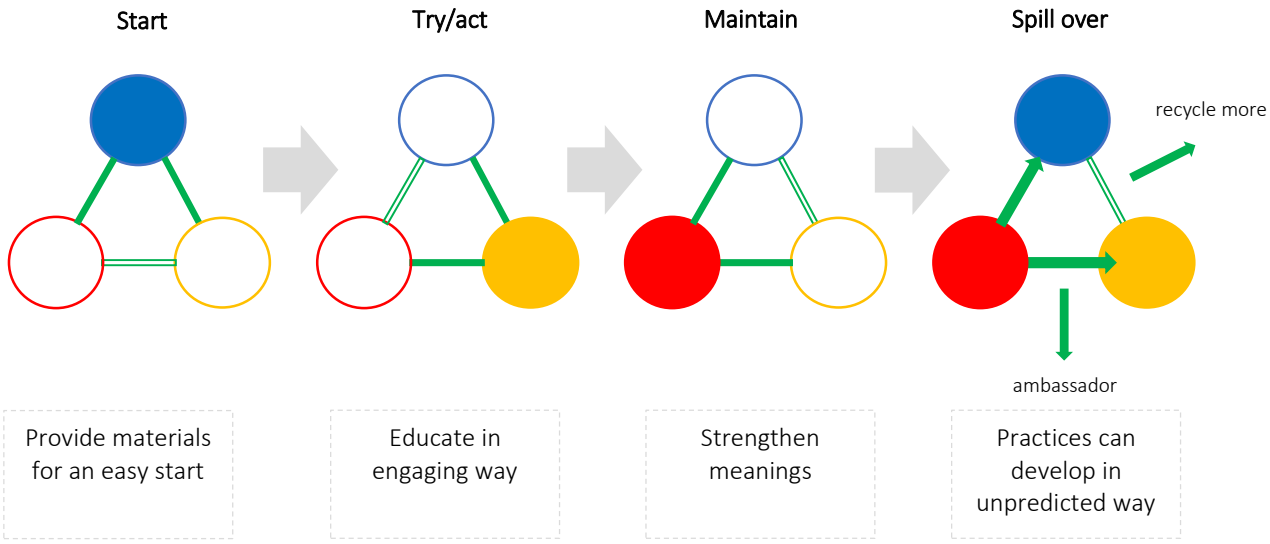

Figure 13. Behaviour change work as a process (created by the author).

Each element in practices is important, and the practice cannot exist without all three (Shove *et al.*, 2012), but as the practice develops and practitioners move forward in it, social marketers

can target their attention towards elements that support a particular stage in the adoption of behaviour.

Stage 1. Start – Providing necessary materials can push a person to start acting. In Malmö, it is creating infrastructure for sorting with a strong political will behind it. It is also about making it as convenient as the context allows – developing useful holders, distributing them and bags to people, and even installing the equipment in their apartments, which nudges to act right.

Stage 2. Try/act – Finding relevant education tools and effective communication to deliver them. In order to become a problem-free routine, food waste sorting requires certain knowledge on how to handle the bags, what and how can be thrown in them so that the value is maximized. In this campaign, website, information material and property owner play this role. Bags also carry some useful tips that now, in graphic form, can serve as effective prompts.

Stage 3. Maintain – Social marketing and physical interventions should build strong meanings that give reasons to people for maintaining the behaviour. VA SYD and Malmö Stad have developed strong images like shared benefits, sorting is norm and convenience.

Stage 4. Spill over – Finally, practices can develop in an unpredicted way as the elements are affected. A person with strong meanings and appreciation for benefits can search for materials (pers.com., Kyle, Aurore & Yulia, 2015), create their own (pers.com., Anders, 2015), or bring materials to their own communities (pers.com., Kristina, 2015). Such person can devote themselves into developing competences (pers.com., Anders, 2015; pers.com., Bengt, 2015) and spreading the message to others (pers.com., Henrik, 2015; pers.com., Kristina, 2015). Well-developed practice can also affect other practices that a practitioner is involved in, for example sorting food waste can lead to sorting other garbage more rigorously (pers.com., Henrik, 2015). There are many different ways, in which practices can organically develop.

7 Discussion

This chapter provides discussion of how the results of this study relate to other research reports. It aims to address the research question raised in Chapter 1. A number of additional points that appeared during the analysis are also considered.

7.1 How can a social marketing campaign that promotes behaviour change in a whole city be implemented?

With the help of multidisciplinary research and **SPT**, this study shows that a social marketing campaign aiming at behaviour change in a whole city can require a combination of political support, infrastructure change, psychology-inspired **CBSM** tools and information campaigns. The results coincide with a recent report published by the Swedish Environmental Protection Agency, which pinpoints that pure information campaigns that are not supported by other interventions, *e.g.* political incitements, are ineffective in reducing CO2 emissions from private consumption in Sweden (Hennlock *et al.*, 2015). The results of the case study of food waste sorting in Malmö suggest that behaviour change work in a big community should consists of three elements, which match Shove *et al.* (2012) definition of practices:

- Materials – provide and improve materials by creating necessary infrastructure and making it convenient to act right is an effective way to engage people in food waste sorting in Malmö.
- Competences – find relevant education tools and effective communication to deliver them in order to give skills and knowledge that are decisive for food waste quality and residents' engagement in sorting since they can make it a problem-free routine.
- Meanings – with the help of social marketing and physical interventions create strong images that empower people to maintain food waste sorting and become ambassadors for this behaviour. Social norms, shared benefits and convenience are examples of strong meanings in a community setting.

This study contributes to the developing research that approaches pro-environmental and health related behaviour from the perspective of **SPT** (Spotswood *et al.*, 2015; Nicholls & Strengers, 2014; Hargreaves, 2011), and takes further the suggestions of Spurling *et al.* (2013) by proposing how **SPT** insights can provide a toolbox for behaviour change work in big communities. This toolbox shows that marketing and information efforts are not necessarily ineffective, as McKenzie-Mohr & Schultz (2014) argue, but can be used together with **CBSM** approaches to achieve greater impacts. Regarding recycling behaviour in particular, while Bernstad (2014) and Haldeman & Turner (2009) conclude that purely information campaigns achieve relatively weaker or no effects, this project suggests that it is the employed communication channels and complementarity with other tools that is important to consider.

The results of this project indicate that both upstream and downstream interventions are needed to shape an effective-community based behaviour change campaign in a city. The choice between either upstream or downstream focus is one of the pressing debates in social marketing (Spotswood *et al.*, 2012) (see 2.1). On the one hand, possibilities hidden in conventional marketing tools, on which downstream interventions build, allow understanding target audience and creating exchange propositions that are attractive to people even when offered on a voluntary basis (Hoek & Jones, 2011; Peattie & Peattie, 2009; Andreasen, 1994). In this project, the value of downstream marketing is expressed in the need to create and deliver messages that provide relevant education and can reinforce meanings connected to behaviour. On the other hand, human behaviour is strongly affected by peers, community, role models, norms, culture

and infrastructure (Gordon, 2013), and as this study shows, infrastructure change, strong political will, presence of many interested actors, opinion building and nudging are vital elements capable of getting people started with a new behaviour. Cherrier & Gurrieri (2014) and Lagarde (2012) propose to appreciate both upstream and downstream social marketing, and the contribution of this project is that instead of studying which of the two is more effective, attention should shift to how both can be combined in the best possible way.

7.2 Context, participation and behaviour change as a process

During the analysis, a number of additional discussion points appeared. Firstly, the case study of behaviour change work in Malmö shows that social relations and various contextual factors also play their role in behaviour change process. This finding is in line with Cherrier & Gurrieri (2014) and Spotswood & Tapp (2013), who propose that a cultural perspective and facilitation of social interaction can improve social marketing interventions. Moreover, the finding agrees with Hargreaves (2011), who concludes in his research that there is a need to consider different domains of everyday life and how they affect behaviour adoption. This case study identifies that practitioners affect and are affected by an array of actors and factors – partners, family, neighbourhood, work place, coincidences and other practices. This has important implications for social marketing research suggesting that a social marketer needs to gain understanding of possible interactions of target audience with their environments. Furthermore, this implies that behaviour change campaigns cannot be perfectly engineered by social marketers and the role of uncontrolled factors should not be underestimated.

Secondly, target audience can take an active role in the behaviour change process in the community. Using **SPT** to analyse a pro-environmental behaviour campaign, Hargreaves (2011) suggests that experiences and identities of practitioners influence the formation and changes of practices. Firstly, the interviews with Malmö residents show that some people can be more ready to sacrifice own convenience for a certain practice and debate with sceptics, because they see themselves as very determined people. And secondly, this case study shows that social norms (Rettie *et al.*, 2012; Goldstein, 2008), shared benefits (Nicholls & Strengers, 2014; van Vugt, 2014) and convenience (McKenzie-Mohr & Schultz, 2014) can create strong meanings, and as the practice develops, they can employ even more practitioners. Members of community then can start searching for ways to adopt behaviour even when they lack physical environment to perform; they can also act as ambassadors and spread the word about the practice to others.

Finally, this case study identifies that behaviour adoption is a continuous process. Carrigan *et al.* (2011) argue that behaviour change does not happen overnight – it is a process that stretches from innovation to routine. Shove *et al.* (2012) present this process as a practitioner's career that develop as a practitioner gets more engaged into the practice. The narratives of the interviewed Malmö residents point at three stages – starting to sort, doing it on everyday basis and coming to reasons for maintaining it further on. Accordingly, social marketers can assist with each of the stages by providing materials for an easy start, educating and giving skills that minimize problem in everyday routine and straighten meanings that empower to continue. This contributes to social marketing research by pinpointing that behaviour is not a question of "do" and "do not", but a continuous process, and behaviour change interventions should be designed accordingly to be relevant for different steps of behaviour adoption.

8 Conclusions

The aim of this study is with the help of multidisciplinary research and Social Practice Theory to explore the role of various enabling factors of pro-environmental behaviour change in a big community setting. This last chapter reconnects to the aim and summarizes the key findings. Furthermore, the practical implications and the suggestions for future research are presented.

Working with behaviour interventions in big and diverse communities is not an easy task. Compared to controlled experiments and short-term campaigns, it requires incessant application of a wide array of enabling factors. Firstly, infrastructure, political support and choice editing can be of help to get community members started with a new behaviour, especially when there are many barriers to it and convenience is appreciated. Secondly, to increase engagement in the behaviour, information campaigns and marketing techniques can be used, since they have potential to provide education and skills, raise awareness and create attractive propositions and images. Together with physical interventions, this can create strong meanings in the community, such as "*behaviour is a norm*" and reassure that it brings tangible common benefits. Finally, social relations and contextual factors should not be underestimated. People are constantly affected in their communities, and can similarly affect others by becoming ambassadors for the practice. To sum up, the border between upstream and downstream social marketing approaches needs to be erased since they can effectively complement each other. The appreciation of the community complexity and of a great variety of intervention approaches can enrich social marketing work and produce campaigns that enable behaviour change to ensure sustainable future.

8.1 Practical implications

Behaviour change campaigns in big communities might consist of many interventions, which happen simultaneously. This means that it can be hard to evaluate each intervention separately and know which particular one leads to the biggest improvements to the whole picture. Such campaigns can also be constrained by time, budget and other contextual factors, and do not necessarily have every step planned from the start. Moreover, practitioners need to analyse and understand behaviours as everyday practices, *i.e.* what they consist of, what the barriers are and with which other routines this behaviour is in competition for time and space. At the same time, practitioners need to keep in mind that not every behaviour aspect can be designed, since social interaction and interactions with environment also affect behaviour adoption. However, practitioners might find the ways to harness this and try to employ target audience as co-marketers – change leaders and ambassadors in their communities.

Regarding the ethical implications, since such factors as political force and choice editing might be considered undemocratic and met with resistance and scepticism, practitioners need to have good grounds for the behaviour that they promote. This might require extensive and transparent research as well as open dialogue with the community.

8.2 Methodological reflection and future research

Social Practice Theory provides a valuable framework that can improve social marketing research and practice. This project applies **SPT** and includes perspectives of both marketers and practitioners, which have not been done by research with similar scope. Furthermore, the variety of data collection methods provides an extensive set of valuable empirical material for analysis, and the mixture of different interview tools, *i.e.* face-to-face and phone, allows exploring food waste sorting deeper while reaching more residents. At the same time, actually observing practices might bring greater insights into human behaviour and how it can be affected. This project benefits from the observation employed during one of the face-to-face interviews, and one of the suggestions to future research is to consider this method as highly valuable and use it on a bigger scale.

Theoretical contribution of this project is that social marketing, and behaviour change work in general, in a big community is discussed as a complex process in a dynamic environment. Consequently, many different enabling factors find their place in such campaigns. This contributes to an ongoing debate between supporters of upstream and downstream social marketing by suggesting that attention should shift to how both these approaches can be combined in the best way to craft effective campaigns.

Moreover, this project contributes to the appearing research that strives to develop community-based social marketing solutions by analysing behaviour as social practices and developing a toolbox based on Social Practice Theory. However, it should be noted that the conclusions of this project are based on a single case study. Looking into social practices is a challenging task, and with my work, I intend to create a pilot that together with other similar studies will serve as a starting point for future research. One suggestion is to test the conceptual framework with quantitative tools to scale it up, as well as with other pro-environmental behaviours to identify the consistency of the framework for promoting holistic sustainable lifestyles. Given that the model proposed by Shove *et al.* (2012) is an intuitive and empirically applicable, but at the same time, simplified presentation of practices, inclusion of deeper theoretical analysis of the foundations of **SPT** might provide even more developed insights. It might be also advisable for future studies to get hold of more people who do not respond to behaviour change campaigns, *i.e.* have not accepted the promoted behaviour. In spite of my initial intentions to do this, I did not succeed and recommend reserving more time for searching for such people. Finally, one of the findings pinpoint that behaviour change is a continuous process, not a one-time event, thus future research could apply a longitudinal approach to give more explanations of various stages of this process as well as of the social marketing roles in each of them.

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Personal messages

Andreas
Malmö resident, lives in a villa
Personal interview (2015-03-24)

Aurore
Malmö resident, lives in student accommodation
Group interview (2015-03-25)

Bengt
Malmö resident, lives in a villa
Phone interview (2015-03-24)

Henrik
Malmö resident, lives in an apartment

Phone interview (2015-03-23)

Janna
Malmö resident, lives in an apartment
Phone interview (2015-03-24)

Jelena
Malmö resident, lives in an apartment
Personal interview (2015-03-25)

Kristina
Malmö resident, lives in an apartment
Phone interview (2015-03-24)

Kyle
Malmö resident, lives in student accommodation
Group interview (2015-03-25)

Lena
Malmö resident, lives in a villa
Phone interview (2015-03-24)

Loka
Malmö resident, lives in student accommodation
Phone interview (2015-03-24)

Mikael
Malmö resident, lives in an apartment
Personal interview (2015-03-25)

Morfeldt, Ingela
Project manager, VA SYD
1. Personal interview (2015-03-19)
2. Email (2015-03-19)

Petter
Malmö resident, lives in an apartment
Phone interview (2015-03-23)

Seyed
Malmö resident, lives in a villa
Phone interview (2015-03-23)

Skog, Daniel
Communicator, Malmö Stad
1. Personal interview (2015-03-19)
2. Email (2015-03-20)

Rydholm, Christina
Communicator, VA SYD

1. Personal interview (2015-03-19)
2. Email (2015-03-19)

Truedsson, Cecilia
Environmental coordinator, MKB
Phone interview, (2015-04-14)

Yulia
Malmö resident, lives in student accommodation
Group interview (2015-03-25)

Appendix 1. Case-study protocol

According to Yin (2013), a case study protocol should include the procedures for contacting informants and field work arrangements, reminders of following ethical considerations towards informants and a line of possible questions used during interviews.

Case study
Campaign that promotes food waste sorting in Malmö (end 2012-2015)

Case study background
Presented in Chapter 4

Research questions
Presented in Chapter 1

Data collection methods/sources
Semi-structured phone and personal interviews
Documents (previous reports, campaign presentation, newspaper Sydsvenskan, information material given by VA SYD during meeting)

Data collection procedure and history
-*November 21, 2014* – approached Daniel Skog from Malmö Stad with email
-*February, 2015* – made arrangements regarding thesis internship at Malmö Stad; interviews with VA SYD and Malmö Stad booked
-*March 15, 2015* - documents studied to prepare questions, interview guide developed for residents (appendix 2), questions prepared for Malmö Stad, VA SYD
-*March 19, 2015* – arrived to Malmö for field work; interview with Ingela Morfeldt and Christina Rydholm from VA SYD and with Daniel Skog from Malmö Stad with questions regarding campaign background, implemented activities, involved partners, existing data and reports and future plans; received follow-up emails with documents from Christina Rydholm and Ingela Morfeldt
-*March 20, 2015* – received the results of the phone survey arranged by Malmö Stad and short list with 50 people that agreed to be interviewed; started calling and booking time (one by one)
-*March 22, 2015* – prepared phone and recording equipment (mobile application used), test of the equipment
-*March 23, 2015* – followed a filming crew that followed the food waste cycle – from households to biogas busses
-*March 23-25, 2015* – many people do not want to be interviewed; 8 phone interviews are made with pre-booked times, all recorded; unsuccessful attempts to find non-recyclers for interviews
-*March 24, 2015* – Andreas visited at his house, interview made at the kitchen with Andreas showing his recycling system, recorded
-*March 25, 2015* – Jelena and Mikael are interviewed, recorded; Jelena invited to a student housing meeting; visited the meeting and posed questions to students
-*March 26, 2015* – all recordings are coded and saved together, all notes are structured

-*March 31, 2015* – interview booked with Cecilia Truedsson from MKB; questions prepared
-*April 14, 2015* – phone interview with Cecilia Truedsson, recorded
-*April 21, 2015* – transcript sent to Daniel Skog
-*April 22, 2015* – transcripts sent to VA SYD, Cecilia Truedsson, Andreas, Jelena and Mikael
-*April 23-May 20, 2015* – categorization, analysis, report

Ethical considerations
-Interviews with residents should be anonymous;
-Interviewees should know they are recorded;
-Interviews should be aware of study purposes and how data will be used
-Receive approval for interview from a person

Interview guide
Appendix 2

Special preparations
-Phone and application for recording interviews (headset is needed for better sound quality);
-Print out interview guidelines and bring materials to face-to-face interviews;
-Notepad and pen for taking notes;
-Pre-book phone interviews to talk in more comfortable conditions;
-Book exact time to increase sense of commitment

Full list of interviewees
Presented in Chapter 3
No personal data of Malmö residents is presented due to privacy considerations

Christina Rydholm, communicator at VA SYD, Christina.Rydholm@vasyd.se
Ingela Morfeldt, project manager at VA SYD, Ingela.Morfeldt@vasyd.se

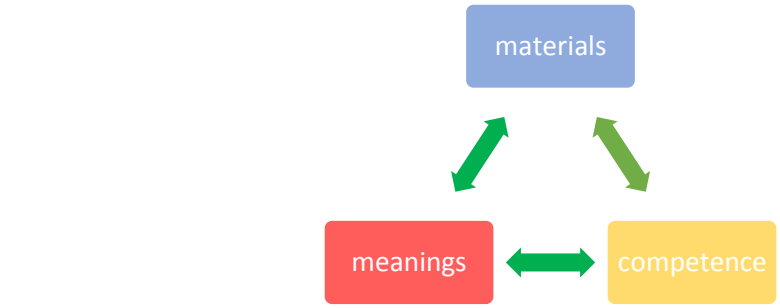
Daniel Skog, communicator at Malmö Stad, Daniel.Skog@malmo.se

Cecilia Truedsson, environmnetal coordinator at MKB, cecilia.truedsson@mkbfastighet.se

Appendix 2. Interview guide

Introduction and key questions
(starting qs depend on background info from phone surveys)
What is you occupation now? Do you work/study etc?
How do you commute to work/studies or when you go around town?
Have you seen the 'Tack för maten' campaign? Where?
What do you remember from it?
Do you remember any other campaigns promoting food waste sorting before?
Why do you sort/don't sort food waste yourself?
(*depending on answers deeper questions are used to explore 3 elements of this practice: materials, skills and knowledge, and meanings)*

-How do you find (do you like) paper bags for food waste that you use?
-Do you remember what is illustrated on this bag?
-Do you use special holder for it?
-Have you experienced any inconvenience with sorting food waste (*help: like smell or dirt)*
-Are you satisfied with recycling facilities you have in your area?
-Do you have facilities to recycle food waste at work/school?



-How many people (you think) recycle their food waste in your area? How is it at work/school?
-Do you think/see they do it right?
-Was food waste sorting discussed much among friends/at your BrF/at work? Is it discussed now?
-What is your opinion on this becoming mandatory for everyone in the city?
-(*possible* How does it feel that so many in Malmö recycle their food waste?)
-Do you think it benefits the city? The environment?
(*help: How does it feel that city busses run on biogas made of your food waste?*)
-What do you know about environmental work in Malmö? (*help Did you know that Malmö has been chosen as the best municipality in environmental work 3 years in a row?*)

-Do you find it easy to sort food waste?
-How fast did you get used to this?
-Do you know well what can be sorted as food waste?
-Have you ever helped/explained others how to sort correctly?
-Do you know how food waste is treated in Malmö? (*help: do you know what biogas/bio fertilizer is?*)
-Do you know what benefits are with biogas?
-(*possible question*) What would you say is better for environment: burn food waste to produce energy or make biogas of it?
-(*possible question*) Have you noticed anything changed in how you recycle your household waste? (*help Do you think you started sorting other things more carefully?*)

Figure 14. Interview guide for semi-structured interviews with Malmö residents, created by the author.

Appendix 3. Food waste sorting systems in Malmö

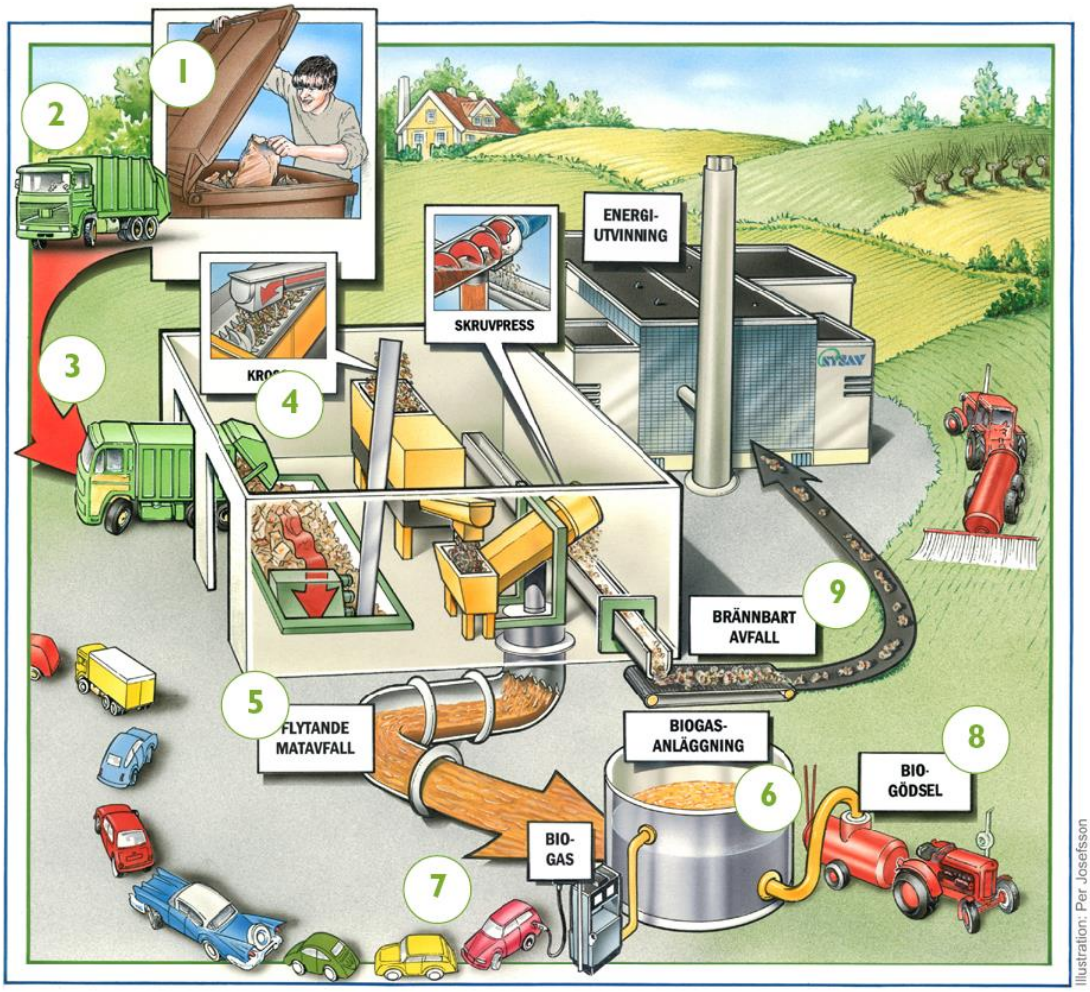


Figure 15. The most common collection system in Malmö (with paper bags) and the food waste cycle (SYSAV, 3, 2015).

Figure 16. Example of vacuum waste collection (Avfall Sverige, 2, 2015).

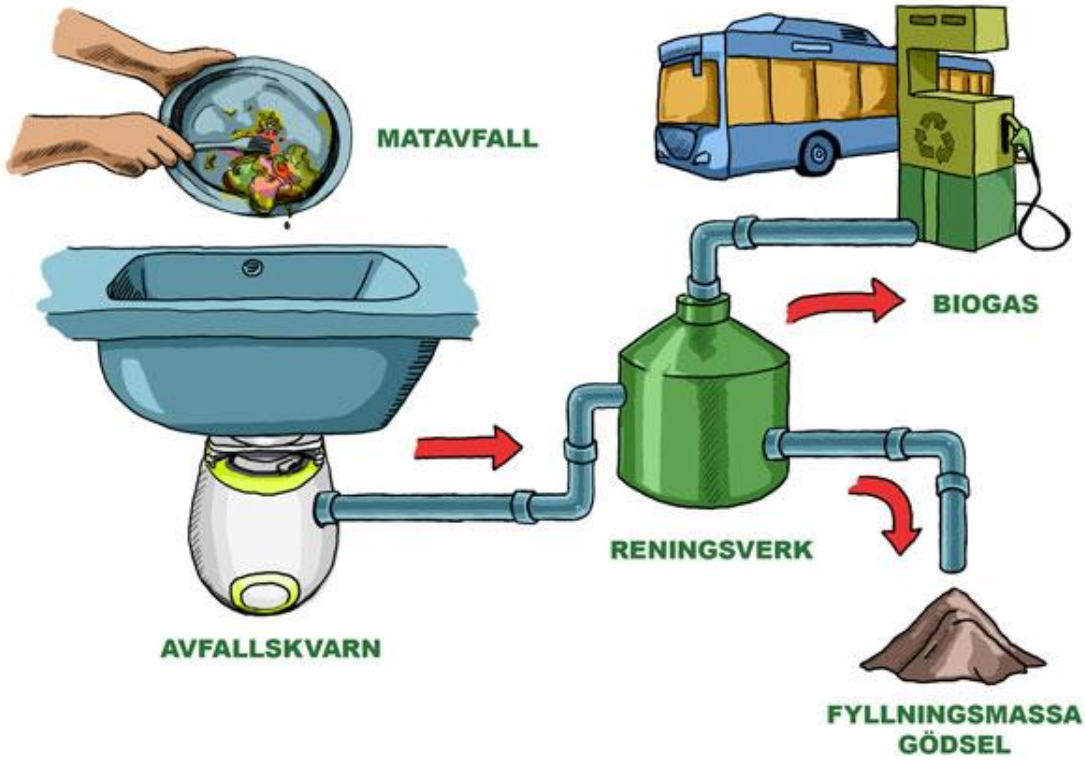


Figure 17. Simplified illustration of food waste disposal units (avfallskvarn) (GreenLoop, 2015).