

Communicating waste sorting with newly-arrived immigrants

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Cover picture: "Ditt avfall är inget skräp", literally meaning "Your waste is not garbage". The picture shows how different sorted waste can be converted to new products. It is taken at the Pump house, Uppsala Vatten's information center on water and waste. Photo: Svea Uhlås.

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Keywords: communication model, immigrants, waste sorting, culture, knowledge, language

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Abstract

This thesis explores communication on waste management to the newly-arrived immigrants. Communicating waste sorting to the newly-arrived immigrants is challenging because it involves multiple senders and multiple receivers, where culture, knowledge and language needs to interplay. The thesis shows how different groups of immigrants get information in waste sorting and suggests how other groups may be left out without being communicated. There is information gap between the sender and the receiver, and also between different receivers.

Waste sorting is a normalised, social practice in Sweden. However, many immigrants tend to sort the waste without being fully informed on how to sort and the importance of waste sorting. During exploration of the message and its channels of communication, the themes of culture, knowledge and language reacted as noises in the communication of the waste sorting to the said receivers. The study concludes that not all immigrants get the knowledge on waste sorting and if the themes are taken into account, they can facilitate the message to reach the receivers.

Keywords: Communication model, immigrants, waste sorting, culture, knowledge, language.

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Abbreviations

Abo	Anläggningsboende. Refugees, who came to Sweden before they got a permit and are offered a place to stay by the Swedish Migration Agency.
Ebo	Eget boende. The refugees who opted to organize their own residence while waiting for the decision on the residence permit.
Fti	Förpacknings- och tidningsinsamlingen. It is a nationwide recycling system for packaging and newspapers collection. The company takes the responsibility of the producers.
Sfi	Swedish for immigrants. A course to study Swedish language.
SO	Social orientation. A program that is offered to immigrants to know how the Swedish society works.
Uppsala Vatten	Uppsala Vatten & Avfall AB. A municipal owned company that is responsible to deliver drinking water, cleaning grey water, collecting household waste, producing biogas, and recycling.

1 Introduction

People always produce waste. Waste management is one of the biggest environmental challenges in the world today. Apart from the environment, waste is gaining recognition as a social phenomenon. It is driven by consumer behaviour and perceptions (Corvellec 2016). Different countries adopt different ways to manage waste (World Bank et al. 2017). In the European Union for example, they have given a directive of waste management hierarchy to its members where they have been focusing on a shift from perceiving waste as a burden to perceiving waste as a resource (European Commission 2010). Waste management hierarchy as shown in figure 1 below shows favourable ways on waste management in relation to the environmental effects of different waste management approaches.

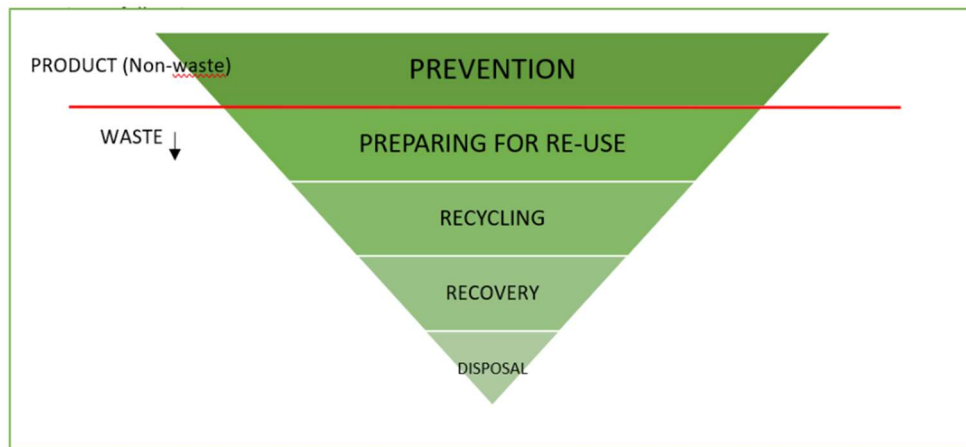


Figure 1. Waste management hierarchy as per the directives of the European Union.

Landfills at the disposal level are the least favoured ways as they produce a lot of methane and include risks such as leakage of hazardous waste into the nature (European Commission 2010), while reusing is considered as better both for the environment and the circular economy. In order to be able to utilise the waste, source separation is statutory in some of the European Union member countries, such as Sweden.

In Sweden, the main responsibility of waste sorting has been given to the individuals living in the country, while producers are responsible to take care of their waste from the packages through Förpacknings- & tidningsinsamlingen (Fti) and the landlords. The municipality is responsible to ensure that the individuals are well informed and the waste is properly taken care of basing on the directives (Regeringskansliet 2000). In Uppsala municipality, the responsibility for informing and managing waste is given to a municipal-owned company called Uppsala Vatten och Avfall AB, here referred to as Uppsala Vatten.

Even though there are many countries that tend to sort their waste in order to take advantage of waste as resource and ensuring that there is minimal environmental risks, most of the countries still treat their waste in the landfills or sort their waste into two fractions (World Bank et al. 2017). When these people move from those countries where they are not used to sort their waste and come to a country like Sweden they are expected to directly sort their waste. Waste sorting is not just statutory, it is also a social norm. I will elaborate more in the background section. Theoretically, there is a knowledge and cultural gap in perceiving waste and even practicing waste management. The gap may even create conflict with the neighbours as most of the recycling rooms are common rooms.

Different surveys show that people perceive waste sorting as easy, yet the results of a picking-analysis that was conducted by Uppsala Vatten (2019) reveals that many people do not sort accordingly. Example, in the fraction of combustible household waste, one third of the waste could be sorted as food waste, almost one third could be sorted as packages and only a quarter of it is actually combustible.

It is not as easy as it sounds to sort the waste. Just in Uppsala, one has a possibility to sort up to 12 fractions of waste: All food waste, combustible waste, bulky waste, hazardous waste, batteries, electronic waste, newspapers and magazines, plastic packaging, metal packaging, paper packaging, glass packaging and medicines. Some of these fractions are divided into different parts, such as one should distinguish coloured and colourless glass packages before throwing as they are thrown in different waste containers, bulbs are not mixed in the other electronic waste, and the garden waste are not thrown in the same container with other bulky waste. There are also possibilities to leave some of the things such as furnitures at the recycling centres for re-using. Another fraction is the deposit bottles, which is the only way one can get direct economic incentive.

Waste sorting being perceived as a social practice and a social norm in Sweden, is communicated in different introduction programs to the newly-arrived immigrants. It is considered as a step towards integrating in a society as the results of this thesis shows. It takes time before the newly-arrived immigrants learn a new language and can share the common values of the society.

In the later years, Sweden has taken a number of immigrants, mostly from Asia and Africa (Swedish Migration Agency 2019). These areas have a different environmental practices, perceptions and language comparing to the existing ones in Sweden. Not so much study has been done in how the newly-arrived immigrants are integrated into pro-environmental behaviours, such as waste sorting, of the host country. That is why I am curious to understand how waste sorting is communicated to the newly-arrived immigrants.

In this research, I explored if waste sorting is communicated equally to all groups of immigrants by looking into different immigrant groups as per the reasons of their immigration. By using the lens of culture, knowledge and language, I have looked upon how the communicators are motivating waste sorting and compared on how the immigrants sort their waste. I have also explored whether the message that is transmitted on waste sorting reaches the receivers. If the message does not reach, then I wanted to understand if culture, knowledge and language contribute in creating the barriers. I, therefore hypothesised that if those factors are taken into consideration in communication strategies, they will assist the message to be decoded by the receivers as intended. This will in turn make the receivers, whom majority are willing to associate themselves with the social practice of waste sorting, to sort their waste in order to achieve the common societal benefits of the circular economy and the environment. I believe the results of this thesis might help the environmental communicators in waste management to restructure the existing system to a more inclusive communication. I laid down my recommendations under the discussion part of this thesis.

By exploring, it is lightening another scope of inclusion or exclusion of environmental topic that has neither been discussed much in the field of waste management nor in integration; yet it involves everyone in day to day activities. The research, therefore joins the general discussion in waste management, with a focus on the inclusion and exclusion of communication towards newly-arrived immigrants.

1.1 Aim

The aim of the research is to explore how communication on waste sorting includes the newly-arrived immigrants. Waste sorting is normalised and statutory in Sweden, therefore everyone living in Sweden needs to understand how to sort their waste in a correct manner. Everyone needs to get equal basis to act upon waste sorting. By sharing the same beliefs and values on waste sorting, I believe, it might lead to more people engaging themselves into waste sorting and therefore achieve societal and environmental benefits.

In the scope of this thesis, I will explore how waste management is communicated to newly-arrived immigrants. I will investigate how the communication system is formally established to ensure that the newly-arrived immigrants receive and understand the role of

waste sorting in the society. It is important to study how waste sorting is communicated to newly-arrived immigrants, because it may find a way to engage the newly-arrived immigrants in proper waste management.

This thesis answers the following research question(s):

How is waste sorting communicated to the newly-arrived immigrants?

- a) Information flow: How can a newly-arrived immigrant get information on waste sorting?
- b) What motivates immigrants to comply to the societies' waste management norms?
- c) Does language, culture and knowledge act as communication barriers for the immigrants to receive the message on waste sorting?
- d) If point (c) proves to be yes, how could a communication model that takes into account immigrants' language, culture and knowledge facilitate the message to reach the receivers look like?

1.2 Background

In most of the dominating cultures in Europe, waste sorting has become a social norm (Thomas & Sharp 2013). Social norm may be defined as a norm that is widely accepted by the society, taken for granted and is considered as an appropriate action (Elster 1989; Mackie & Moneti 2014). Waste sorting has been connected with the environmental responsibilities and is therefore seen as a base for a basic society value. In the case of newly-arrived immigrants who were not engaged in waste sorting from their countries of origins, based on the results by Schultz *et al.*, (2007), it is more likely that they would be motivated to sort their waste after they receive the normative messages.

According to Thomas & Sharp, (2013), in order to “encourage non-recyclers to begin recycling and for recycling to become a normal behaviour for them, interventions need to not only address issues of understanding and ease through provision of services and knowledge, but also of identity.”

Identity in this case is referring to the belonging of being like other people in the society, and which may be formed by the social norm. Thomas & Sharp acknowledge the importance of provision of services and knowledge.

Barr *et al.* (2003) provided a framework for recycling behaviour where they identified environmental values as a basic intention, while situational and psychological variables are the intervention to modify behaviour that contribute in shaping an individual's environmental action. The situational variable can be related to cases such as an access to appropriate services and knowledge. While in most areas in Sweden there is a provision of services that enable one to sort his/her waste, knowledge of waste sorting to the newly-arrived immigrants may be limited by their background, that is to say, if they come from a country where waste sorting is practised and the language as most information is only available in Swedish. In the terms of psychological variables, issues of motivation, response efficacy and self-efficacy and social norms were identified by Barr *et al.* (2003).

A strategy of appealing to social norms in making more people to recycle have been categorised as influential (Schultz *et al.* 2007). Strategies such as community-based social marketing have been developed based on understanding the norms and the hinders towards achieving pro-environmental behaviours (Mckenzie-Mohr 2000; Schultz 2014). As reviewed by Cialdini & Goldstein (2004), “*authorities, individuals often look to social norms to gain an accurate understanding of and effectively respond to social situations, especially during times of uncertainty.*” The newly-arrived immigrants often face uncertainty in the case of waste sorting (Hellwig *et al.* 2019) even though they are keen to obey the rules (Miafodzyeva *et al.* 2013). That is why social norm has been important to keep in mind in this thesis.

Most of the studies about waste sorting use behavioural theories focusing on how the message should be formed in order for people to change behaviour (Rhodes et al. 2014; Dupré & Meineri 2016; Janmaimool 2017). The message has been identified in terms of attitude and motivational factor to behaviour change. In environmental communication, there are studies about waste management that have focused in the context of politics and public participation. According to Hird (2017), inclusion of the people in the communication of waste is important in the practice of waste management. While the case that Hird and other scholars brought forward does not relate with the case of immigrants, inclusion of the people in communication or in other words participation is important to look upon. Immigrants participate in the communication at the level of information and counselling (Arnstein 1969). Even though the immigrants receive information from different sources, they tend to abide to the social norm but that does not mean that they share the same values with other people in the society nor that they have an adequate knowledge.

In the scope of this thesis, participation in communication is conceptualised as communicating in a language that the receiver of the information understands, the message has reached the receiver and that the receiver may provide feedback. If the receiver understands the message, then my assumption is that the receiver is capable to take conscious decision. As an example, for a person who is keen to sort their waste because that is what people do in Sweden, then with the help of knowledge information that has reached the receiver, that person will probably not put a coloured jar into a colourless container by assuming that they are all glasses.

Therefore, communication is identified as a selection of information, utterance of information and an understanding or misunderstanding of the utterance and its information (Luhmann 1992). While the importance of message to reach the targeted group has been identified by many communication strategists like Jurin *et al.* (2010) and Bennett & Jessani (2011) as an essential factor in communication, little is known on the effects of inclusion of information on waste management towards the immigrants, who are part of the society.

This research is intending to contribute in covering the gap in the literature on understanding how communicating waste sorting to the immigrants can reach the receivers. The research will also contribute to the society by highlighting how the immigrants participate or can participate in the common ground of protection of the environment and the circular economy through creating a common base by communication of waste sorting.

2 Methods

The research is about exploring communication of waste management with the immigrants in the municipality of Uppsala, Sweden's fourth largest city. I have explored the information flow from both the source of information to the receiver, and from the receiver to the sender.

The interview questions have also focused on the message in order to understand if there are factors that may distort the message. The empirical data that have been used in this research has been collected into two phases:

Phase I: Survey that was focused in understanding if there is a need for Uppsala Vatten to convey information in other languages, that I conducted for two weeks between week 37 to 39, 2018.

Phase II: Interviewing different practitioners who communicate about source separation of waste, that was conducted for two weeks between week 11 to week 13, 2019.

2.1 Limitation of the study

There are many groups of people having different conditions when immigrating to Sweden. Here, I have limited the study to the people who immigrated to Sweden for the reasons of seeking refuge, family reunion and work. The study exempted the communication channels that are linked to the people who moved to Sweden for studying and also those who come from other EU/EES countries.

The study has focused on the Uppsala municipality. I acknowledge that the municipalities in Sweden slightly differ in both the responsible organisation to provide information and requirements of waste sorting.

2.2 Defining the receiver

The receivers that I have focused upon are the people who immigrated for the reasons of seeking asylum, reuniting with their family and working. I analysed the group of the people seeking asylum into three divisions, depending on how they seek asylum because it has an impact on how much information on the society are they entitled to get. The receivers that I focused upon can be defined, according to Swedish Migration Agency (2015) as follows:

Quota refugees – These are the people seeking asylum or protection through the Swedish resettlement program. A certain number of refugees, who are registered by the United Nations refugee agency (UNHCR) are offered a possibility to reside in Sweden and are granted a residence permit before their arrival.

Refugees under Abo – Abo refugees are the ones who are offered a place to stay by the Swedish Migration Agency when waiting for the decision on their residence permit to stay in Sweden.

Refugees under Ebo – Ebo refugees are the ones who opted to organize their own residence when waiting for the decision on the residence permit to stay in Sweden.

Family reunion immigrant – A person who has immigrated in Sweden because of family ties with someone living in Sweden.

Work immigrant – a person who gets a work permit. The person come from other countries out of EU/EES to work in Sweden.

2.3 Data collection methods

Questionnaires: I conducted a survey about “information on waste sorting to other languages” during my internship at Uppsala Vatten in autumn last year (Uhlås 2018). The purpose of the

survey was to provide a base for a communication plan to newly-arrived immigrants and even to other people who have not mastered Swedish yet, so that all the people living in Uppsala get information on waste sorting.

The survey was conducted using questionnaires containing both closed and open-ended questions during week 37 to 39, 2018 (See the English version of the questionnaire in Appendix 2). Interviewees were selected randomly by meeting them face-to-face in Uppsala where I visited different places in Uppsala city such as the mosque, churches, Sfi classes and shopping complexes. Participation was voluntary. The criteria was that the interviewees were not born in Sweden, I therefore asked the respondents if they met the criteria and if they would like to fill in the questionnaires anonymously. 106 immigrants who are staying in Uppsala answered the questionnaires that were available in six languages; Swedish, English, Arabic, Persian, Tigrinya and Somali. The focus of the questions aimed in understanding the immigrants' attitude on waste sorting, the need of communicating waste sorting and creating an understanding on what motivates them to sort or not to sort their household waste. Moreover, the survey created an understanding on how the immigrants got information on waste sorting when they moved to Sweden. I have permission from Uppsala Vatten to use the data for this thesis.

Interviews: To understand how the message is transmitted from the sender's perspective, I interviewed eight practitioners who have experience on communicating about waste sorting and interact(ed) with the immigrants through their work. Some of them work directly with waste management, while others work with providing social orientation and language education to the immigrants. The interviews were conducted in practitioners' offices, where every interview took about half an hour.

Before getting in touch with the practitioners, I revised the report of the survey about communicating waste sorting to other languages that I conducted through Uppsala Vatten (Uhlås 2018). Basing on the list of how the immigrants, who were the receivers of information, got information on waste sorting when they immigrated, I selected most of the practitioners. Other practitioners are the ones who are responsible to provide information as per the law.

The interview questions were open-ended, and all the interviews were conducted in Swedish (*See interview guide in appendix 1*). The interviews created an understanding of how these practitioners communicate, what is the major concern or hinder they have observed that they believe would help the newly immigrated people basing on their experiences and what channels and tools of communication they use. For interviews, all eight practitioners agreed that I record the interviews by audio. The interviews were later transcribed.

2.4 Data analysis and interpretation:

In analysing the data, I applied a systematic communication theory. According to Littlejohn & Foss (2010), a communication theory is "*any conceptual representation or explanation of the communication process*". In this thesis, communication is theorised as information processing (Craig & Muller 2007). The theory used is derived from the work of Shannon and Weaver's (1949 in Mcquail & Windahl, 2015) mathematical theory of information where flow of information was observed as a linear flow.

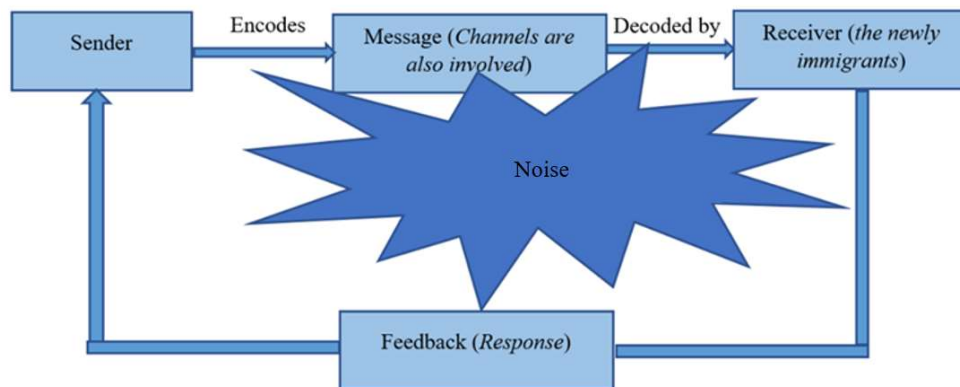


Figure 2. Transmission model of communication that is used to analyse and interpret the information flow.

Using communication theory in the analysis and interpretation of the empirical data helped me to conceptualise communication as a system of transmitting information from the sender to the receiver and receive a feedback, which in turn has assisted in understanding of how waste sorting is communicated to the immigrants, and if there is any hinder in communication. The hinders may be categorised as the noise that interrupt the communication flow.

In understanding communication flow from the sender to the receiver, I have in most cases looked upon how the receiver decoded the message by linking it from the receiver to the sender. The reason behind doing it this way is to double check the information in making it more accurate, valid and reliable.

I have experienced that the communication theory that I have applied in the study provides an overview on how communication includes or excludes some groups of immigrants. However, I agree with the critics provided by other scholars, such as Pierce (2012) and Howes (2015) on the communication model that it is too general and fails to give a meaning of a particular message. To understand the kind of noise that I looked upon in the message that is to be decoded by the receiver, it has been important to give some meanings to the message. As given in the critic of the communication model in failing to understand the meaning of a message, I looked on how the motivational messages match between the sender and the receiver, that is to say what the senders focus on their message versus what the receivers have said on why they sort their waste. When trying to make sense of the interviewees' ideas on how the message can reach the immigrant, a communication strategy about the knowledge translation kit that was developed by (Bennett & Jessani 2011) helped in organising the ideas.

I have used a deductive approach to code the data, categorising the information into three themes that are linked to social norms and how communication can be achieved. The themes are culture, knowledge and language. These themes are more related to Barr *et al.* (2003) modifying behaviours in their framework for recycling behaviour. It is important to note that these three themes are intertwined with each other.

Culture can be defined in several ways. In the scope of this thesis, culture is referred to the definition given by Spencer-Oatey (2008: 3) in Spencer-Oatey (2012) as:

“a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioural conventions that are shared by a group of people, and that influence (but do not determine) each member's behaviour and his/her interpretations of the 'meaning' of other people's behaviour.”.

Culture as discussed in this thesis includes the basic assumptions on the waste management laws and how the group of people behave towards the law, how they influence each other and what meaning they create on the message they are provided. Culture can be learned through social interaction (Lustig and Koester 1999: 31–2 in Spencer-Oatey, 2012).

In this thesis, knowledge has been implied as Fish & Bender (2000) defined that it:

“builds on information that is transformed and enriched by personal experience, beliefs and values with decision and action-relevant meaning. It is information interpreted by the individual and applied to the purpose for which it is needed.”

Hence, knowledge considers the information that enhances the receiver to understand how to sort their waste and why. I looked at how knowledge may enhance the decoding of the message as the information that enhances knowledge should be interpreted by the individual first. The interpretation, among other things may face hinders in communication, that is language and culture.

Under the theme of language, I have considered language as a medium which is used to convey information or request of services (Armstrong & Ferguson 2010). It is a communication system that people use to communicate based on the regions they came from, and the vocabularies used. According to Holtgraves & Kashima (2008), language and social cognition are connected. In other words, the basic features of language and language use differs a lot in different cultures, hence it plays a vital role both in regarding culture and knowledge transmission when it comes to encoding and decoding the message.

3 Results

In analysing the data, I tried to explore the communication model from the sender to the receiver, and how the receiver perceived the message reached them from the sender of information. Herewith, I am presenting the results that I have extracted from the interviews where most of them are senders of information and the receivers of information whom I got from the survey. When analysing, I have compared the results from both the senders and receivers and presented them together under every heading. The headings are based on the communication model of the sender, receiver, message and channel of communication. Unlike the traditional way of exploring message in the communication model, I have extended the exploration of the message in order to understand the noise that distracts the meanings of the message.

3.1 Sender

In communicating waste sorting to the newly-arrived immigrants, there is a sender and a receiver of information. This research identified that there are multiple senders of the information. The senders are divided into two parts, being primary senders and secondary senders. Primary senders are the ones who constructs the message on waste sorting, such as Uppsala Vatten and fti. Most of the secondary senders are the practitioners who have the responsibility to introduce the immigrants in the Swedish society such as Swedish for Immigrants programs (Sfi), the Social Orientation program (SO), the department for newly-arrived immigrants through their introduction officers, and the landlords and tenant association. Some senders like the landlords, such as Uppsalahem are both primary and secondary senders. That means that they combine their messages, in a form of producing some of the message themselves and take other information from other senders to transmit to the receiver.

The reasons that the senders have brought forward in the interviews on why it is important to communicate waste sorting specifically to the newly-arrived immigrants are social norm and integration.

3.1.1 *Social norm*

Most senders talked about waste sorting as a normalised matter in Sweden. Depending on the sender, it is communicated differently. For example, the department of newly-arrived immigrants communicate waste sorting as one of the bases of living in Sweden; the educational institutions such as the Sfi discuss waste sorting in the context of environment; whilst the landlords and tenants association communicate in the context of normalisation, environment and economy. However, all the practitioners aim in simplifying the life of the newly-arrived immigrants by understanding the norms of the society. As an example, interview 3 (translated) explained during an interview:

“To avoid all these problems, avoid all these disproportional relationships, we have decided already from the beginning to explain to them that this is how it goes, it is a normalised thing, it is in all over Sweden, it is called waste sorting. This is how we think in this society...”.

3.1.2 *Integration*

The practitioners consider providing waste management information as vital in integration. As interview 3 (translated) framed it,

“That is why it is extremely important to teach them these kind of things [...] Think of yourself as a newly-arrived immigrant having only one waste bag, and then you throw it or

you throw a broken device and then your neighbour stands there and screaming and shouting at you because he/she does not have a pedagogical capacity to manage people. How would you feel?"

Failure to behave as expected in the norms, even if it is lack of knowledge, can lead to situation of potential conflicts.

In identifying the sender from the receivers' perspective, educational institutions mostly sfi has reached more people, followed by the landlords; someone they know and the municipal officers or the introduction officer for the newly-arrived immigrants and society orientation communicator.

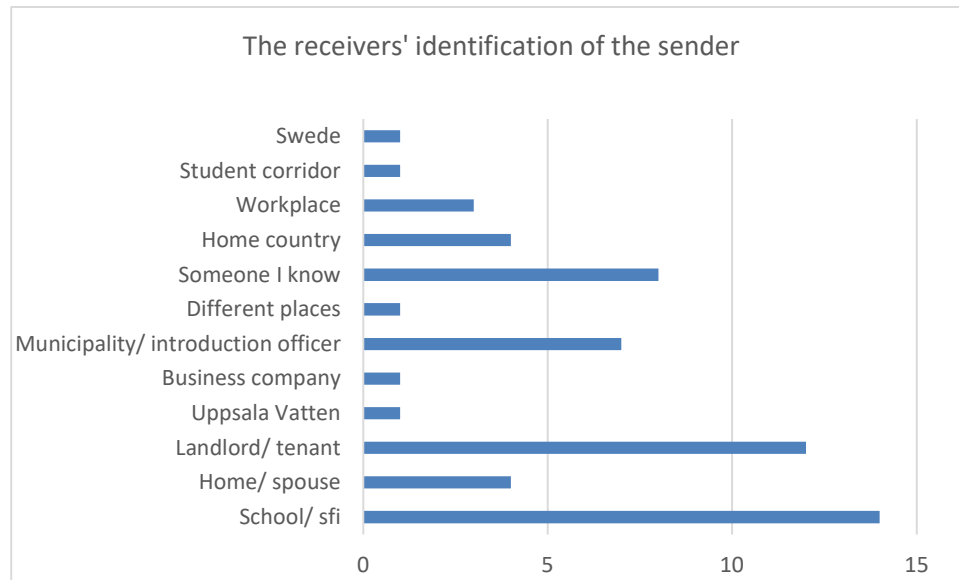


Figure 3. Sources of information on waste sorting that the immigrants mentioned in the questionnaires.

3.2 Receivers

The receivers of the information are the newly-arrived immigrants. During the interviews with the practitioners, I realised that the group of the newly-arrived immigrants is big and complicated, being treated differently with information depending on the reasons they immigrated. For the ones seeking refuge, they are entitled different help to get into the society depending on whether they fall under the category of quota, Abo or Ebo. This in turn makes it possible for some of the immigrants to get more information on waste sorting than others, with a risk of some of them not getting any information on waste sorting at all.

Basing on the interviews, figure 4 to 8 below show how different groups of newly-arrived immigrants might get communication intervention on waste sorting.

Immigrant (quota) → Introduction officer (per family) → Social orientation → Sfi

Figure 4. How quota refugees get information.

All the quota refugees get social information including waste management through the introduction officer from the department of newly-arrived immigrants in their homes. The introduction officer shows each household separately on how to do it in their (immigrant) home, using the language, they are comfortable with. The refugee is usually subscribed to Sfi and they are encouraged to participate in the social orientation programme. In all these educational programmes, waste sorting may be included.

Immigrant (Abo) → Introduction officer (per group) → Social orientation → Sfi

Figure 5. How Abo refugees get information.

A contact between the Abo refugee and an introduction officer is not as intensive as with the quota refugees. They are all given information on waste sorting once by visiting the recycling rooms. Some of the Abo refugees get information on SO, and all of them are subscribed to Sfi.

Immigrant (Ebo) → Social orientation → Sfi

Figure 6. How Ebo refugees may get information.

The municipalities are not fully responsible to ensure that the Ebo refugees get support in the beginning when it comes to integration and social life. However, the Ebo refugees may be recommended by other institutions such as the Swedish Public Employment Services to attend the social orientation programme. It is through SO that they may be able to understand the normalisation of waste sorting. Almost all the Ebo refugees join Sfi.

Immigrant (Family reunion) → Social orientation → Sfi

Figure 7. How immigrants for family reunion may get information.

The state of family reunion is more like the Ebo refugees. There is no official way to ensure that they understand the norms and values of the society. There is a possibility to subscribe themselves for social orientation program, but most of them do not (Interview 6). However, many of them attend Sfi.

Immigrant (Work) → Sfi

Figure 8. How immigrants for work may get information.

For the workers, they may get information on waste sorting through the Sfi, but not all of them attend Sfi. Some of newly-arrived immigrants for work learn waste sorting by imitating other people at work, depending on the norm at work but there is no guarantee that they get the knowledge on why and how to sort.

Theoretically, it is possible to communicate waste sorting to all the newly-arrived immigrants. Other ways that the immigrants may get information is through the landlords, waste rooms, the neighbours and people around. The quota refugees, as an example, receive most information in their language followed by the Abo refugees. Other immigrants like the ebo-refugees and those people who immigrated for family reunion reasons may learn waste sorting through the sfi or in best of situations, family members and neighbours. According to the experience of sfi, based on interviews, some people go to sfi for a longer time and therefore manage to talk more about waste sorting and even have study visits, while others take a very short time in a sense that they neither have study visits or talk much about the society issues like waste sorting. How long it takes before the immigrant gets to join the SO depends on the demand of the language the immigrant requires. The flow of information has a gap that leads to a risk of communication exclusion on waste sorting, specifically on the immigrants who moved in for the reasons of family reunion and working, but even Ebo refugees.

The fact that not all the newly-arrived immigrants receive information on waste sorting as explained above, is confirmed with the results of the survey where 62 respondents out of 106 said that they received information on waste sorting, 38 respondents said that they did not receive information on waste sorting, and 6 of them did not respond. However, as many as 95 respondents said that they sort their waste, partially or fully, 7 do not sort their waste while 4 did not respond to the question.

There is a large difference in the proportion of those who sort their waste to those who received the information. In other words, just because the receiver did not receive the information, does not mean that they do not abide themselves to the social practice of sorting their waste. On the other hand, there is no data that shows if the ones who got the information, understood well. The data does not show if the waste is sorted correctly or not.

3.3 The message

The message is central in communication. How it is encoded by the sender and decoded by the receiver is important. Sometimes, a message might fail to be decoded by the receiver because of noise that interrupted the message.

As mentioned earlier, not all the newly-arrived immigrants get the information on waste sorting upon their arrival in Sweden. Apart from the accessibility of the information, they all come from different cultures, speak different languages and possess different level of knowledge on waste sorting.

In order to understand the challenges that the message face to be decoded, I applied the themes of culture, knowledge and language to explore the degree of noise they make towards the message.

3.3.1 Culture

In order to understand what kind of arguments which are brought forward by the senders to motivate the receivers, and the receivers' motivation to act upon the message by sorting their waste, I considered it important to understand the senders' perspective on waste sorting. It is because the senders' perception may have influence when encoding the message. In the case of communication on waste sorting, there exists a number of cultural differences. The cultural difference between the sender and the receiver may interrupt the message. However, some senders have recognised the differences and tend to adjust their communication by either focusing on motivation or prioritising the information.

Seven out of eight practitioners (senders) who have been interviewed perceive waste sorting as doing good for the environment by taking into account energy, recycling, and disposing the waste in a correct and safe manner, where two of them connected it to sustainability. While waste sorting message is included in the senders' job descriptions, three of the senders are considering that it is important to communicate waste sorting to the newly-arrived immigrants because it is "*part of the Swedish culture*" (translated, Interview 1 and interview 4), engaging and a way to hold the environmental profile of the institution. Three of them perceived waste sorting as having a direct economic incentive that may have an effect on the house rent.

In analysing the messages that is brought forward by the senders to motivate the receivers to sort their wastes, the senders have been focusing on the following:

- *Waste sorting is a normalised matter and is practised everywhere in the country*
- *Waste sorting is required by law.*
- *Think of the environment, animals and the future of the earth. Thus it is everyone's responsibility to take care of the environment.*
- *Connect it with the climate change with the help of the news.*
- *Giving out figures on how many times a product can be recycled.*
- *Economic advantage: the fact that combustible waste is more expensive than others, which in turn can affect the rent of their houses.*
- *Explaining what happens with the waste by showing other products that were made from waste.*

The reasons of waste sorting being good for the environment is also supported by many receivers being the reason why they sort their waste according to their answers in the questionnaires. Other reasons that the receivers sort their waste after being communicated by the senders are following the rules of the country, assuming waste sorting as a social norm and there are facilities that enable one to sort the waste. Reasons that motivate the recipients to sort their waste, but have not been communicated by the senders include cleanliness, health, and helping the recycling workers by source separation.

From the receivers' perspective, some of the reasons that were given in the questionnaires on why they sort or do not sort their waste were:

- *This is what people do in Sweden.*
- *Following the rules.*

- *Sweden is leading in recycling.*
- *Protecting the environment.*
- *It feels good to do a correct thing.*
- *Facilitating the work for recycling workers.*
- *Availability of the facilities.*
- *Health and safety reasons: important to take care of the waste in a proper way.*
- *Reusing and recycling benefits.*

While the senders communicate the economic reasons, statistics and climate as a way to motivate the receivers to sort the waste, these reasons have not been shared by many on why they sort their waste. To many receivers, the reasons on why they sort their waste are connected on the social norm such as that is what people do in Sweden.

The issue of culture came up in the interviews quite often and it is something that almost all the senders acknowledged the role that it plays. However, not all the senders conform their information in relation to the culture. The ones who conform to the culture says that culture plays a role in how a person conveys information. They either stress more in some parts of information or less in others, as the information have different relevancy in a receiver's interest and references.

3.3.2 Knowledge

The most common questions that the senders have been getting are about why is it important with source sorting of the waste and why one should separate some wastes that looks alike, example from interview 3 (translated), *"this is a glass and that is a glass, they are both glasses. Why do we do this way"*, referring to the coloured and colourless glass packages? Other questions are about what happens to the waste and the request on information in other languages.

The demand for knowledge matches with the ones that appeared in the survey results. 13 of 46 comments of the receivers requested more information on how to sort the waste properly and why one needs to sort; and 6 out of 19 expressed that the information should be inclusive by communicating using other languages so that even the newly-arrived immigrants may understand.

Whether the senders think of the knowledge level of the receiver and the country the receiver comes from varies a lot. Three of the six senders who responded to the question assumes that the receiver do not have full knowledge and therefore give equal information to all from the basic, while the other three senders assumes that the receivers have different pre-knowledge therefore they try to get an overview picture of the knowledge of the receiver and then conform their way of communication after that, including what needs to be explained more and what needs to be stressed up.

3.3.3 Language

In Uppsala, there are people coming from different countries speaking different languages. As an example, 84 people in the survey who mentioned their mother-tongue sums up to 28 different languages. When it comes to producing information to other languages, there is no institution in Uppsala that has taken a full responsibility to produce the information though some of them take some information from Fti. Fti, for example, provides information on waste sorting and recycling in 26 languages which are available in their website, covering five fractions of waste being plastic-, paper-, metal- and glass packaging, newspapers and magazines. The information that even covers the other seven fractions are provided by Uppsala Vatten, but are only available in Swedish.

Some of the senders said in the interviews that they focus on communicating using simple Swedish, speaking slowly with instruction values that answers questions of why and how, and also using other languages. Most of them agree that they try to conform their message

with the receiver, arguing they try to focus on the receiver to understand the message. However, this is possible only if it is face-to face. Example of conforming is by stressing some parts of the information depending on which language they use, using basic information that is concrete and avoiding abstract discussions. As interview 8 (translated) explained,

”Firstly, we take [the information] very basic so that we do not bring up abstract discussions, rather keep us into those that are easy to illustrate with things we have [...] a waste bag, we take it out and ask them to help out and put the waste in the right bins. It is very concrete. It is easy to understand what one talks about [...] We often do not talk about the waste management hierarchy when we talk to groups that do not understand so much Swedish”.

All the interviewed senders perceive communicating using other languages as important. Some of them perceive it as a way to avoid exclusion of information and emphasising the importance of waste sorting. As an example, interviewee 4 (translated) explained how he/she perceive the situation:

”I think there is a need to do more so that many people can do it [waste sorting] the right way. With information in several languages, it would at least make one to avoid that someone does it wrong because of lack of knowledge.”

The results suggest that both, the senders and the receivers of information, have experienced language as one of the factors that hinder communication. Language may be as a system of communication, but also how different words are used.

The senders expressed their willingness in conforming to the receivers’ language by mostly trying to avoid jargon, but also some of them who can speak other languages have been switching to other languages when needed, or even use of translators sometimes when talking to the receiver. From the interviews, the ones who also speak other foreign languages expressed the difficulty in translating some words, but they rather prefer to explain what it means than using one short word of that language. However, the senders adjust their messages to the receiver only in face-to face meetings.

3.3.4 The channel of communication

According to the interviews, the most common channel the senders use is face-to-face meetings. These may be by interacting with the receivers when giving them an orientation, classes, study visits, during exhibitions and visits at the recycling centres. Door-to-door may be considered as part of the face-to-face but I have categorised it alone to show how common different senders use or have used this method. The senders who use face-to-face method have acknowledged the flexibility the method has, when it comes to adjusting communication with the language, culture and knowledge. Most of other channels are used by focusing on general public, of which most of the newly-arrived immigrants are excluded due to the noise.

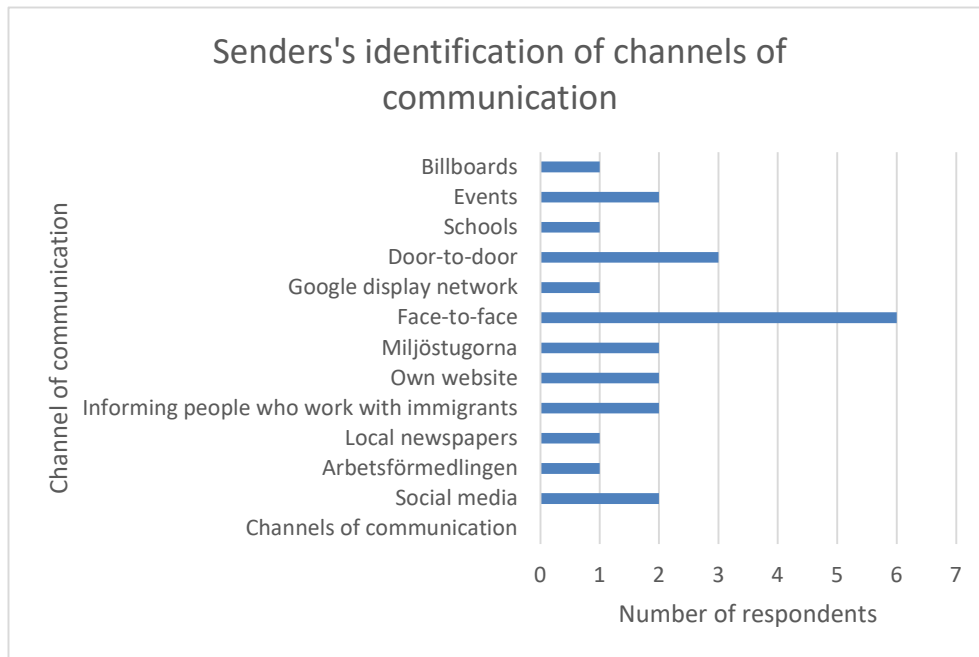


Figure 9. The channels of communication that the senders are using to reach the newly-arrived immigrants.

By analysing the data about the receiver from the survey, majority of the people who got information face-to-face said that they remember what was told. It reveals that the face-to-face channel of communication that conveys the messages orally are the most effective to the immigrants. This may be because the sender considered the language, culture and knowledge of the recipient and adjusted the message before delivering it, as mentioned earlier under the language. There are other receivers who remember that they learned sorting the waste through different media, internet, brochures and images in the waste rooms.

Even though face-to face meetings has been appreciated on its flexibility, over half of the senders uses printed materials such as brochures, information papers, presentations and own newsletters. However, most of the newsletters are available in Swedish. Focusing on using pictures, information in the websites and participating in different events are used by some of the senders.

3.4 Communication strategy

In trying to understand the perception of different senders on what a communication strategy should consider when communicating waste sorting to the newly-arrived immigrants, I asked the senders on their inputs on what they think could work to reach the newly-arrived immigrants. I framed this as their “dream communication strategy” without giving any headlines on what it should contain. The presentation of the results is a combination of the ideas that the interviewees contributed and I structured it as one. I grouped the ideas basing on the model of 10 elements of a communication strategy developed by Bennett & Jessani, (2011).

3.4.1 Review

Derived from the results above, the producers or senders of information ought to review their existing communication ways in order to open up for inclusion. Among other things, there is a need to review the audience, consider culture, knowledge and language both when

constructing a message and selecting communication tools, and more effective communication channels.

3.4.2 Objectives

From the ideas of the interviewees, the objective of communicating waste sorting to other languages is to stimulate inclusion by creating the same basis to all the people to act upon.

3.4.3 Audience

The results from the interviews and surveys indicate that there are multiple audiences involved, if the message is to reach the primary audience who are the newly-arrived immigrants and those immigrants who do not manage Swedish well. Some of the senders of the information may be viewed as secondary audience by others.

From the interviews, most of the senders perceived implicitly or explicitly that the audience are adults. To understand the audience, the ideas that came up in the interviews include working closely together with people who work with immigrants and conducting a group interview with people coming from different cultures.

3.4.4 Message

From the interviews, the senders came up with different suggestions on how the message should be developed if an organisation wants to develop a communication strategy towards the newly-arrived immigrants. I have grouped the ideas that the interviewees suggested on how the message should be communicated by penetrating through “*the noise*” of culture, knowledge and language.

Culture: The senders suggest that the message should focus on the laws and rules, prioritise the information depending on the group’s relevancy and focus on behavioural change while acknowledging the difficulty in establishing new habits as an adult. Example, one can emphasise the norm like in interview 1:

“this is how people do in Sweden, it is important to think of environment, nature and people”.

Knowledge: Most of the interviewees suggested that the strategy should focus on explaining why the receiver should sort their waste, how to do it, what happens with the waste and what happens if the waste is not sorted. Apart from explaining, some of the interviewees suggested study visits should be combined with the information. As interview 6 said about the importance of study visits as knowledge transmission,

“they [the receivers] can see with their own eyes on what happens with the waste [...] It will create understanding that there is a system lying behind”.

Language: All the senders acknowledged the importance of language when communicating with the newly-arrived immigrants. The interviewees discussed language into two perspectives as defined previously in this thesis. A general contribution that all the interviewees gave is that the message should be communicated using simple Swedish and also use other languages.

Some of the interviewees emphasised the need to be conscious on what words a communication strategist is using when formulating a message. Language is linked with norms. As an example interview 5 said when talking about future communication strategy in waste sorting,

“think which words you are using [...] If someone is brought up in Sweden, he/she have it somewhere in mind that source separating of waste is a good thing”.

All the senders suggested the use of other languages in communicating waste sorting to the newly-arrived immigrants. They expressed different perspectives in the importance of communicating in other languages. Some of the interviewees believe that it simplifies for a

person to take in information if the information is in the language one is comfortable with. Other interviewees perceive it as symbolic that indicates an appeal to the receivers' feelings that waste management is a very serious matter. Example, interview 2 explained about using other languages in communicating waste management as "*sending a sign on how important we think this is that everyone should understand*" that is why "we" are trying to communicate on the language that "you" understand.

3.4.5 Basket

The ideas of the interviewees that filled the basket include communicating using printed materials that are clear with less text and using a lot of images, films, study visits to the recycling centres and developing an information bank on waste in different languages.

Three of the interviewees have emphasised the challenge of showing respect in simplifying the communication, which in their terms that the information should be basic but not "too childish" when communicating to adults.

3.4.6 Channels

Sfi and SO are examples of institutions that have been perceived by the senders as both senders of information and channels of communication to reach the audience. Other channels are participating in different events and exhibitions. The interviewees have emphasised the importance of understanding the culture of different groups of the immigrants in selecting communication channels, and then follow them where they are, be it using social media, influencers and the like.

3.4.7 Resources

From the interviews, finances and time has been considered by the senders as limited. On the other hand, the immigrants through the questionnaires have shown the willingness to do more though a high percentage lack information on how to sort in a correct way.

3.4.8 Timing

There has not been an agreed good timing for conveying the message on waste sorting to the newly-arrived immigrants between the interviewees. As an example, one interviewee has experienced that the best time to communicate waste sorting is when the refugees under Abo wait for the permit, arguing that they (the refugees) cannot do much during waiting time. Another sender experienced that when the immigrants move in the country, they receive a lot of information and therefore, they are not capable of taking in information on waste sorting. They rather prioritise the information that they have direct benefits of, such as information on their permits, school, hospital and tax offices. Example from interview 4:

"Frankly speaking, even if one stands there listening [...] how they can sort their waste, I think one is somewhere else thinking where I have come from, what have I come to, one thinks about the care [...] there are many tougher things they think of than laying their focus on waste sorting, there and then. But later on after their arrival..."

The best time to communicate on waste sorting, according to him/her is waiting until the immigrants start to settle and start studying Swedish. Several senders however, has considered timing as a way to keep on reminding the receivers in different interval. Some of the senders generally expressed that communication on waste management should be a continuous process.

3.4.9 Brand

One interviewee talked about branding by communicating at the individual level. This may be done by emphasising the benefits of the waste sorting to an individual.

Another interviewee talked about creating a communication package such as “learn and experience”. This can be done by conducting training to the immigrants who are going to the Sfi which includes sorting some of the products and even have field visits to experience what happens when the waste leaves homes.

3.4.10 Feedback

None of the interviewees discussed about how the evaluation should be conducted.

4 Discussion and recommendations

The results of the interviews and questionnaires show that waste sorting is taken for granted as an act that everyone is doing in Sweden. See part 3.3.1 in the results above. It implies that waste sorting is normalised in Sweden, just like in other European countries (Thomas & Sharp 2013). It is enforced by the law, where the main responsibility is given to the individuals. Practitioners perceive that they have a responsibility to ensure that immigrants meet the expectations of 'doing it the right way' even into the social practice of source separation of the household waste. Effective communication therefore plays a central role in meeting the expectations. Introspectively, inclusive communication on waste management is to desire. The benefits will stimulate the environment socially (like integration and common environmental values), ecologically (like ensuring that the waste is disposed at the proper place so that they can be well taken care of) and economically (example if more food-waste is collected, then it will lead to more biogas produced).

When analysing the understanding of communication, a cybernetic perspective was the most relevant in order to explore how waste sorting is communicated especially in the parts of exploring the information flows, whether the newly-arrived immigrants gets the message and the noise. However, a cybernetic perspective fails to show the precision and effectivity of the meaning conveyed in a message (Velentzas & Broni 2014). Hence, the limitation could be solved by trying to understand the message on another perspective on how the senders appeal to the receivers and what the receivers think is important basing on receivers' culture and knowledge.

In this part, I am going to discuss the findings of my research and also present my general recommendations where needed. In the recommendations, I have also included some ideas that would help in creating a communication strategy that would enhance the message to reach the targeted receivers of this research.

4.1 The sender and the receiver

Communicating the message of waste sorting to people with different culture, varying knowledge and language is challenging. It is difficult to define the senders who specifically focus on the newly-arrived immigrants. For example, Uppsala municipality through Uppsala Vatten, whom by law are responsible to inform all the people in the community on waste management including waste sorting (Regeringskansliet 2000), has laid more focus unto the people who already understand Swedish. The departments that interact with the newly-arrived immigrants in the municipal have therefore been searching for information from other places. These departments, even though they are the senders, can also be considered as a communication channel, communicate waste to some groups of the newly-arrived immigrants together with other society information. I will discuss the effects of being a sender without enough information from the municipality in the part of channels of communication.

Uppsala municipality through the department of newly-arrived immigrants communicates actively only to some groups of refugees where intensive communication is with the quota refugees and extensive communication with the Abo refugees. The department does not communicate with other groups of newly-arrived immigrants. I learned that there is communication exclusion when it comes to waste sorting. I refer to communication exclusion as when a group of people are limited to receive information because the information does not put into consideration the hindrances such as language, culture and knowledge. As an example, the language used may lead to some people to not understand the message at all. With the current system, the responsibility to understand the information by other groups of receivers such as Ebo refugees, family re-union immigrants and immigrant workers are left out to the individuals alone. In the best scenario, the individual may get information from the

So if that person attends Swedish classes for a longer time. Communication exclusion from the municipality's side made other actors such as the landlords, the SO communicators to look for their own solution on communicating source separation of waste by tailoring information on other languages derived from other places. However, not so many landlords have invested in communicating to people who are more comfortable to other languages, hence the group is not covered much with the information.

Even though source separation of household waste may seem to be the same in Sweden, there are slight differences from one municipality to another. A good example is the difference in sorting potted-plants. Figure 10 and 11 below are the instructions on how to sort the potted-plants in Dalarna and Uppsala as per the official sorting guides available at the responsible companies' websites.



Figure 10. How to sort potted-plants in Dalarna. Source: dalaavfall.se.

In Dalarna, potted-plants should be sorted as food waste, where as in Uppsala, potted-plants should be sorted as combustible waste.

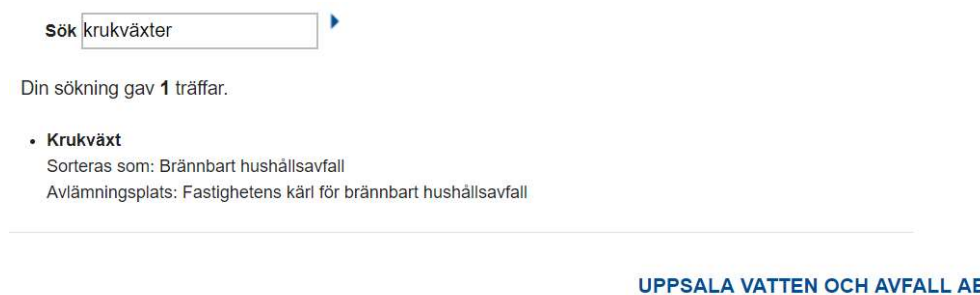


Figure 11. How to sort potted-plants in Uppsala. Source: uppsalavatten.se

Therefore, in my views, borrowing materials from other municipalities may include the risk of misinformation that would lead to improper sorting. To avoid this, I recommend Uppsala Vatten to play an active roll in communicating waste sorting for the municipality that include different languages. In making them available, the other practitioners in Uppsala may take relevant information from Uppsala Vatten.

4.2 The message

The results show that how waste is communicated between the newly-arrived immigrants differ a lot. There are those who are favoured by getting more information with an account of language, culture and knowledge, while others are at the risk of not getting any information. However, the immigrants show a tendency of wanting to abide to the existing

social norms by trying to sort their waste once they see other people in the society do it. Unfortunately, from the results of this research, failure of not accessing information implies that not all the receivers perceive themselves as having much knowledge on waste sorting. In my assumptions, this gap of information may lead to the waste being wrongly sorted due to lack of knowledge. Some people who are careful with sorting may get upset to those who do not sort, and therefore the feeling of annoying someone may be experienced as very uncomfortable to the immigrant. That is why some people sort just because “this how people do it in Sweden” as answered in some of the questionnaires so that they can feel that they are normal, part of the society and avoid conflicts. I therefore recommend that the message should focus to all the receivers, and therefore different communication channels should be used to ensure that people get appropriate information.

There may be several reasons that the message of waste sorting does not reach the immigrants. I limited the exploration of the communication barriers into three themes, being culture, knowledge and language. I looked upon these themes as noise, but I believe they can also be used as tools by the sender in facilitating a message to reach the receivers as intended. In the analysis, I experienced that these three themes interplay with each other.

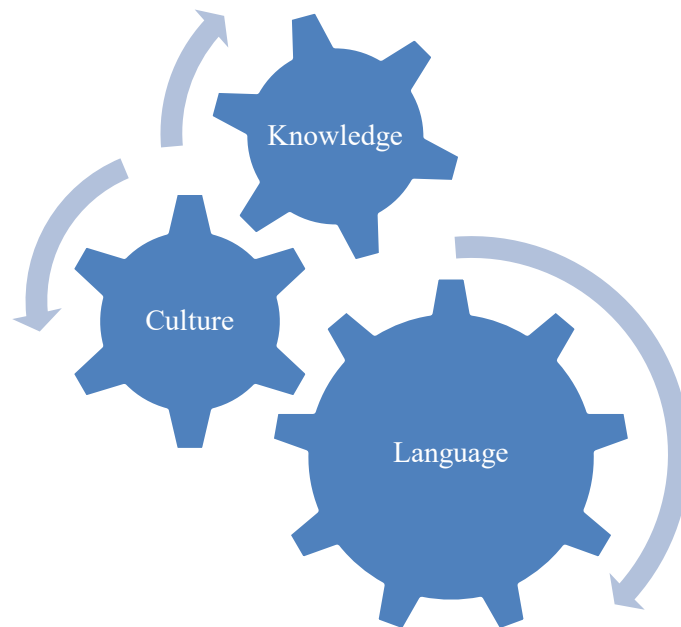


Figure 12. Language, culture and knowledge interplay with each other when communicating with the newly-arrived immigrants.

In general, the newly-arrived immigrants get a lot of societal information from different authorities. Communication on waste sorting faces a large competition with other information that the newly-arrived immigrants consider as “more important”. Therefore, the environmental communicators in waste management have a challenge to understand their audience well, especially in the group of immigrants as they have different cultural and language challenges. There is also another challenge that one should not take for granted, which is knowledge in this group when communicating as people have varied experience on waste sorting.

I agree with the results that the communicator should acknowledge that the newly-arrived immigrants have a lot of impressions to take in when coming to a new country. These impressions might hinder their understanding capacity of the message by that time and therefore rely more on their personal experience, beliefs and values. However, my assumption after the analysis basing on other studies is that, the newly-arrived immigrants are more likely to be motivated to listen or read about waste sorting if they experience that they are learning. According to Bandura (Bandura 2001), learning enhances motivation and

in turn enhances action. I recommend that some of the messages should be encoded as a learning purpose in order to gain more attention to the receivers like other important societal information.

In the interviews and the questionnaires, there has been a demand for more information. It shows that it is important to consider communicating differently basing on the language that the groups understand, and culture where the communicator should have a capability to prioritise the content of the message when informing the audience. People are more motivated to listen to the message that they are interested in. According to Bennett & Jessani (2011), people “*have no interest in your aims except in the context of their own*”.

Latif *et al.* (2013) argued that knowledge can create positive effects especially in the pro-environmental behavioural change, though they also warned that one should be very attentive if he/she wants to introduce the factor of environmental values. There are different ways to communicate the knowledge on waste sorting to the immigrants. While most of the ways depends on the communication strategies of the organisation, the main responsible sender (as suggested in this case, an organisation like Uppsala Vatten) may take a lead by communicating with the newly-arrived immigrants and other institutions that interact with the newly-arrived immigrants. More about the suggestion of the flow of information is discussed in the next section. In communication, it is important to lift up the benefits at a personal level, the societal benefits from a person’s “small” act, why is it important to separate products that outwards seems like the same such as paper and paper package, what happens to different waste and the like. I believe that by creating understanding, the actions will be conducted.

Culture might create another barrier. Apart from the language and selecting information and the communication tools as shown in the results, the obedience of law should also be regarded when prioritising the information. Not all people come from a country where they trust the authorities and are obedient. Basing on the work of Lin (2005), the difference of culture in trusting the authorities and being obedient to the laws differs from one country to another, where he/she gave an example that people from Scandinavia are more obedient. It is therefore important to understand the culture of the targeted receivers. When looking at the messages and the reasons on why people sort their waste in section 3.3.1 of this thesis, it has shown that the newly-arrived immigrants are more motivated to the messages that appeal directly to individuals such as their health and identifying themselves as one of the people living in Sweden, rather than the law and climate change.

According to the results, the language that most senders use in their message is Swedish. However, the results also reveals that it takes time before the immigrants understand the language both in terms of content and information. Thus, language acts as a noise. Even after staying in Sweden for a long time, some feel insecure as they feel they do not have an adequate knowledge to understand waste sorting.

To be able to share the environmental value of waste sorting, they ought to understand why is it important to sort, what happens if they do not sort and how to sort correctly. Through knowledge, people are eager to act. Many communication scholars have emphasised the importance of communicating clearly, in a language that the receiver understands. I recommend that the use of pictures and simplified Swedish should be taken into consideration, just as many interviewees proposed. Information should be available in different languages and should not be direct translated as the original message has been created based on Swedish culture. I agree with an interviewee who said that one listens and understands more in a language that he/she is comfortable with.

Without taking into consideration the culture, knowledge and language, there is a risk that the communication barriers will develop and therefore the message fails to reach the receiver as intended. This in turn will cost the immigrants in their efforts to be integrated due to lack of knowledge; the organisation as more waste could be sorted in a right way and; the society both economically and socially, but also ecologically.

4.3 Channels of communication

As observed earlier in the analysis and the discussion, the channel of communication is confusing due to multiple senders with slightly varied motivational agendas. Even though it looks like a chaos, it is possible to organise the chaos. The figures below show how communication can be shifted from “chaos” to an “organised chaos”.

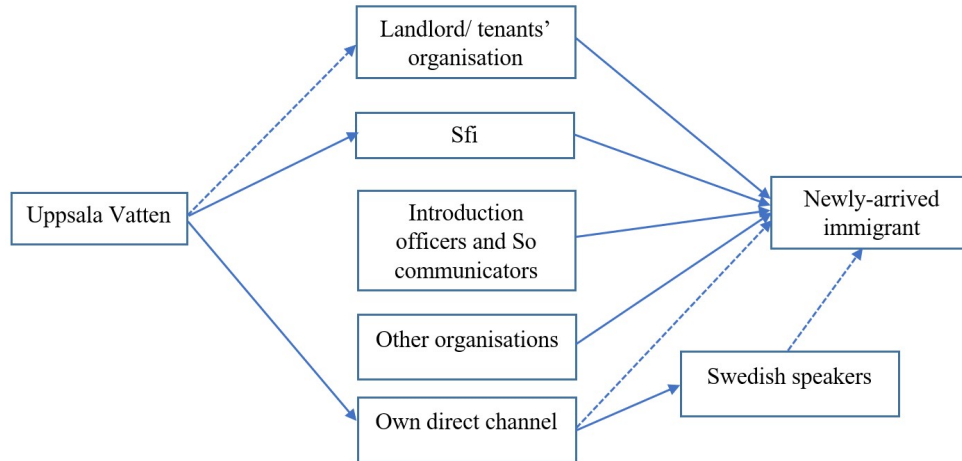


Figure 13. A simplified version of how the communication flows in a current situation.

As mentioned previously, the information provided above might slightly differ depending on who provides the information and where the provider got the information from. To be able to provide correct information to all the people and create a system which includes all the groups of the immigrants, I recommend the shift from the current flow to figure 14 below.

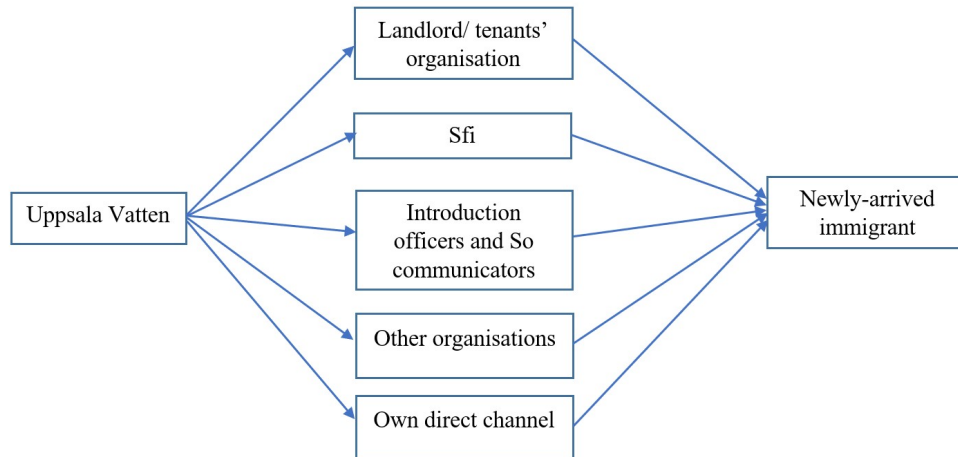


Figure 14. A recommended organised chaos for communication flow.

Organised chaos, while it leaves different institutions to work upon their own channels, it may be effective for a red thread of the communication. It is through consistent and not differ the content of the message that the effect of repetition will produce positive results.

When it comes to different communication tools, combination of tools is best to prefer. There is a challenge that may align in communicating through pictures and films for being too basic, but this may be solved by having a clear view of the audience. Culture, knowledge and language should be regarded in the choice of the tools to communicate. For example, too long text may put off people who comes from areas that do not have reading culture. While writing using their language may attract their attention, there is a risk that they would not read everything. Therefore, I recommend that the information on waste sorting in other languages should be concise and enhance learning that would lead to action. In the results, most of the senders produce written information, and I acknowledge that it is important in

complementing other tools of communications that involves face-to-face meetings. The information should include imagery that would be available in most places, such as recycling houses.

5 Conclusion

Waste sorting is always relevant as waste is produced daily and concerns every one. In Sweden, waste sorting is normalised and is also statutory. The research shows that waste sorting is communicated as an integral part of staying in Sweden and is considered as essential in integration for newly-arrived immigrants especially the quota refugees and the abo refugees. By using the transmission model of communication, it shows that not all the groups of the newly-arrived immigrants get proper information on waste sorting. Another important thing in the results of this research is that most of the information that is transmitted by some of the senders, except the few, is crowded by noise. Therefore, it reveals that there is a gap in communication on waste sorting to the newly-arrived immigrants.

Just as there are multiple receivers as shown in the thesis, there are also multiple senders of information. During exploration of the topic, I revealed the differences that not all the people get an opportunity to understand waste sorting when they immigrate to Sweden. Most of the message that is aimed to the groups who are assured to get information such as quota refugees, is communicated in consideration with the language which the receiver is comfortable with, face-to-face and it takes into account the culture of the receiver and their reference in the country of origin. Others are expected to search information on their own, where most of the information is in Swedish and is focusing to people who are knowledgeable about waste sorting.

The thesis results show that there is a gap between the immigrants' who consider themselves sorting their waste to the ones who received the information about waste sorting when they moved to Sweden. Most of them are motivated to comply to the waste sorting norm with the reasons that they were either motivated with, affected by their culture or trying to comply with the norm as they have seen others doing. However, not all of them sort all their waste. Looking closer to the motivation, the messages that appeal to the immigrants are mostly concerned with identifying themselves as Swedes (norm) and doing a right thing for their health and workers. I therefore recommended the communicators to adjust the current message from the approach of abiding to social norm rather than law.

This research hypothesised the themes of culture, knowledge and language acting as noise and therefore hinders the message to reach the receiver. The results proved that these three themes hinder communication to reach the receivers, but they can be penetrated to let the message reach receivers. The immigrants expressed a need of understanding the whole process on how waste sorting works. As explored in the research, for many of them to be able to understand then they need to be communicated to on their conditions, that is the message should be communicated in a language the receivers understands, content that makes them understand why and how to sort, and the use of words and content depending on the domain culture in both oral and written forms of communication. Combination of different tools when conveying a message is required. Example, images with less text in the brochures or signposts combined with visits in the waste room. The institutions ought to focus the information in form of imagery to accommodate communication to different people. As the languages are many, then the institutions may develop information based on those languages that are widely spoken by the immigrants such as simple Swedish, English and Arabic (as repeatedly mentioned in the interviews). Information should tend to reflect on the trend and ensure that they talk at the individual level.

Communicating waste sorting to the newly-arrived immigrants is challenging. It involves multiple senders of the information and multiple audience. In the development of communication strategy, apart from the message to be adjusted with the culture, knowledge and culture, the communication channels and communication tools should also be adjusted depending on the group. By doing so, the message will be able to pass through and reach the receivers. However, in the discussion I have recommended how communication channels can be re-organised from the current "chaos" to a more "organised chaos". Having an organised chaos of the senders, I believe, will make the message to be consistent, and this in turn will

nudge the newly-arrived immigrants to act upon waste sorting. If they hear the same message from different sources that they trust and listen to, it will make them understand that waste sorting goes beyond the law.

Waste should be communicated at different levels and times and by different people. Communicators have repeatedly argued that the challenge with a topic of waste is to engage people by making it fun (personal notes taken in 2018). However, in the case of communicating waste to the immigrants, they ought to also consider the message to be educative and practical. Therefore, the challenge I pose to the environmental communicators is to make a brand in waste sorting that would engage the interest of the newly-arrived immigrants.

When analysing the empirical data on waste sorting communication to the newly-arrived immigrants, I experienced that the communication model limits the exploration of the meaning. This theoretical critique has also been enlightened by other scholars (Pierce 2012; Howes 2015). I therefore extended the exploration where I employed some tools from other perspectives to get to understand the message and discover the noise. This thesis shows an example of cross-cutting traditions where some tools of one tradition can help to identify the core issues on another tradition. As an example, I used the rhetoric tools to understand communication mismatch that were important in conveying a message to the receiver. I call for the scholars to develop the theory and provide the systematic tools for exploring the practical part of the message.

This research has approached communication in a cybernetic perspective. There are few researches in the environmental communication that focus into communicating with the immigrants, even less when it comes to waste sorting. The aim of this research was to explore how waste sorting is communicated to the newly-arrived immigrants. During the exploration, I realised that the topic can be explored in different communication perspectives that would help in understanding how the immigrants can abide to the norm of waste sorting. I therefore call for more researches in different communication traditions to contribute in the topic.

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Appendix 1: Interview guide (Swedish)

Intervjun ska inte ta mer än halv timme att utföra.

Är det okej att jag spelar in vår konversation?

Introduktion; Hej! Som jag nämnde tidigare, jag heter Asya Uhlås. Jag läser till miljökommunikation på SLU i Ultuna. Jag sitter på Uppsala Vatten för att skriva mitt examensarbete. Mitt examensarbete handlar om att utforska kommunikation kring sopsortering till personerna som har flyttat hit från andra länder och kultur där de inte har samma källsorteringssystem som vi har i Sverige. Jag vill förstå hur olika aktörer kommunicera med tanke på den här gruppen. Kan du berätta kort om dig såsom vad du heter och vad du jobbar med?

- Hur arbetar du med sopsortering?
- Varför är det *viktigt* att sopsortera tycker du?
- Berättar du om sopsortering till nyanlända? Varför?
- Får du oftast frågor om sopsortering till nyanlända? Kan du ge ett exempel av vilka typ av frågor som du får?
- Hur formulerar ni er själva och vilka språk använder ni när ni kommunicerar med nyanlända? Varför?
- Vilka kommunikationsverktyg använder ni att kommunicera med nyanlända eller de som inte kan svenska så bra? Jag menar om ni delar ut skriftliga information. Berättar när ni träffas, tränar praktiskt eller kanske göra ett studiebesök.
- Vad lyfter du fram när du ska motivera nyanlända att de ska sortera?
- Vilka kommunikationskanaler använder ni för att få budskapet att komma fram?
- Tänker du ofta på kunskapsnivå och vilka länder personerna i frågan kommer ifrån innan du väljer vilka information du ska lyfta fram och hur du ska formulera dig själv?
- När det gäller ett budskap, brukar du översätta innehållet ord till ord från svenska* eller har du upplevt ett behov av att rekonstruera innehållet för att få budskapet att komma fram? Varför? *Översättningen från svenska kan betyda till andra språk eller till lättläst svenska som exempel.
- Om du skulle få utveckla en kommunikationsstrategi till nyanlända om sopsortering, vad skulle du tänka mycket på? Varför?
- Är det något ytterligare du har funderat på när det gäller att få nyanlända att sopsortera?

Appendix 2: Questionnaire

Uppsala Vatten is helping people who are living in Uppsala to sort their waste correctly. Right now, we want to translate some of the information about sorting out household waste into other languages than Swedish. That is why we kindly ask you, who have a mother-tongue other than Swedish to help us by answering a few questions on sorting out household waste. The survey is anonymous.

- 1) What is your mother-tongue?

- 2) How old are you?

<input type="checkbox"/> 18 – 24 years	<input type="checkbox"/> 25 – 34 years	<input type="checkbox"/> 35 – 50 years
<input type="checkbox"/> 50 – 65 years	<input type="checkbox"/> 65+ years	
- 3) How long have you lived in Sweden?

- 4) Do you sort out household waste at home? ☐ Yes ☐ No
- 5) If yes, what do you sort out?

<input type="checkbox"/> Food waste	<input type="checkbox"/> Plastic packaging	<input type="checkbox"/> Metal packaging
<input type="checkbox"/> Combustible waste	<input type="checkbox"/> Electronics	<input type="checkbox"/> Glass packaging
<input type="checkbox"/> Paper packaging	<input type="checkbox"/> Batteries	<input type="checkbox"/> Bulky waste (plates, etc)
<input type="checkbox"/> Harzardous waste (left-over paint etc)	<input type="checkbox"/> Newspaper	<input type="checkbox"/> Clothes and textiles
- 6) a) If you are sorting out – why? _____

b) If you are not sorting out – why not?

- 7) Have you had any information on how to sort out your household waste?
☐ Yes ☐ No
- 8) If yes, how did you get the information?

- 9) How do you experience household waste sorting?
☐ Easy ☐ Average ☐ Difficult
- 10) Have you ever visited a recycling centre*? ☐ Yes ☐ No
- 11) Any other information you would like to share with us:

*Recycling centre is a centre, with staff, where you can leave your ”grovavfall” like a refrigerator, furniture and electronics. There are 8 recycling centres in Uppsala: Gottsunda, Librobäck and Boländerna are among them.