



ZERO WASTE LIFESTYLE

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ABSTRACT

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The aim of this thesis was to investigate and analyze the current situation of Zero Waste lifestyle in the residents of Tampere, Finland. The thesis introduced the term of Zero Waste lifestyle and its principles. The purpose of this research was to find out the generated waste from living life and how people are living in Zero Waste, the reasons why they do not choose Zero Waste and to discover alternatives for this lifestyle.

The study was based on literature review and survey research. This thesis includes the introduction of Zero Waste term, clarified the principles and 5Rs in Zero Waste, survey conduction and the conclusion. The survey was conducted successfully and matched the expectation, which gave overall view of trending of Zero Waste lifestyle in Tampere, Finland. Based on the survey response, beside of common difficulties such as lack of suitable facilities, lack of information, some hidden problems have been discovered. One of the discovered problems in this research about Zero Waste initiatives is feminization. Another term has been risen in this research is "minimalism". Starting with minimalism will be a good initial step in the journey of reducing waste. Based on the survey, launching Zero Waste related regulations and legislations would change Zero Waste lifestyle from being a trend to become common living habit. However, this research topic needs more study to understand and acknowledge the current situation about Zero Waste lifestyle. Zero Waste is a new and interesting topic which still has many aspects for researching and investigating.

Key words: zero waste, zero waste lifestyle

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ABBREVIATIONS AND TERMS

TAMK	Tampere University of Applied Sciences
MSW	Municipal Solid Waste
EPR	Extended Producer Responsibility
ZWIA	Zero Waste International Alliance
SUPs	Single-use Plastics

1 INTRODUCTION

Managing municipal solid waste efficiently and environment-friendly is becoming a trend because of the visual and non-visual consequences that waste is bringing to human's life and nature. In this section, background, research problem, research questions and objectives will be identified.

1.1. Background information

The 4th industrial revolution is not only present, but also it seems going faster and faster. It is obvious that we are living in a great transition period of new digital technologies and infrastructures which provides us a more sophisticated living standard. (ISWA 2017.)

Lands, seas and oceans are suffering from wastes which are created by humans. Nature species are exposed to trash, such as plastic, and end up. (Smillie 2017.) Trash has penetrated nature food chain. This, in turn, affects humans since human is the highest level of food chain. In the worst case, nature species will come to extinction because of human activities which are creating waste.

After World War II, when living standard has gradually improved, waste had been risen enormously which leads to the acceleration of a reaction: the call of zero waste phenomenon. The term "zero waste" was first published widely in the industry in 1970s by Paul Palmer, a PhD chemist from Yale in California, "zero waste" means reusing materials instead of used once and discarded. Unlikely recycling, this theory connotes the recovery of the used materials instead of throwing them away or burning them. (Mauch 2016.)

When discussing about this theory of Zero Waste, many controversial views started to reflect the reality of living a Zero Waste life style; in specific, an article written by Ellie Shippey in The Breeze newspaper showed several disagreements in living a Zero Waste lifestyle as well as emphasized on the fact that there will be no one who does not produce any trash (Ellie 2019).

That is the current gathered opinions about the topic of “zero waste” in general. However, the author wants to understand the opinions about Zero Waste of current residents who are living in city area, especially in Tampere region, where the author is residing. A brief information about the targeted city and its residents is described below.

Tampere is the third largest city in Finland and the largest inland center in Nordic countries. Currently there are 235 239 inhabitants in Tampere (year 2018) and half a million are living in urban center. This city is surrounded by two big lakes: lake Näsijärvi and lake Pyhäjärvi. Tampere is a center of leading-edge technology, research, education, culture, sports and business. With two big universities (Tampere University and Tampere University of Applied Sciences) and their total of approximately 30 000 students, Tampere becomes an energetic city with non-stop movements and developments. (City of Tampere 2019.)

1.2. Research problem

Based on the origin and toxicity of waste, modern system of waste management has divided waste into many different categories. One of the most significant waste is municipal solid waste. This thesis mainly discussed about municipal solid waste.

The purpose of this thesis is following the procedure of municipal solid waste generation in living habit and the trend of Zero Waste lifestyle in Tampere, Finland. The thesis will first present the concept of waste and its generation in living life, as well as describe some related legislations and regulations. Based on that, a survey study will be established to investigate people whether choose zero waste lifestyle or not, why and what prevent them from following with this lifestyle. This thesis's research will mainly focus on people in Tampere city.

Following the focus location and targeted people, the thesis's research question mainly focuses on understanding what the overall situation of zero waste lifestyle among people in Tampere is. And based on the later research analysis, the sub-

question: “Should there be any suggestion for people to follow Zero Waste lifestyle?” will be clarified. The successful points of this thesis are achieved when the research questions are answered. In addition, the research conducted should be able to gather as much information needed as possible. And finally, a personal assessment from the researcher will be delivered in the conclusion.

2 MUNICIPAL SOLID WASTE

According to Directive 2008/98/EC of the European Parliament, waste is defined as “substance or object which the holder discards or intends or is required to discard” (Directive 2008/98/EC). In other word, waste is unwanted or unusable material that people have thrown away. However, there is one noteworthy thing: the definition of waste depends on specific situation such as time, location and owner’s perception and preferences (Christensen 2010).

The higher standard of living is, the more waste has been introduced into nature. Developed countries produce more waste because of urban civilization. Whereas the generated waste in developing countries needs to be treated properly. If not, it will cause epidemic diseases then to spread globally. (Daniel 2011.)

However, this rapid revolution brings up a major consequence: the problems of managing wastes grew far more serious. This generates unprecedented quantities of concentrated garbage, sewage, and other wastes. In terms of treatment and disposal options, several categories of waste have been introduced: municipal solid waste, hazardous waste, sewage sludge, clinical waste, agricultural waste, industrial and commercial waste. Other types of waste can be taken into consideration are construction and demolition waste, mines and quarry waste, end-of-life vehicles and scrap types. (Williams 2005.)

Municipal solid waste comprises approximately 10-15% of total generated waste. This type of waste consists of solid and semi-solid substances which have organic and inorganic origin, produced by human activities in household living, trading, services, public facilities in residential areas. (Tölgyessy 2001.)

Based on different factors such as culture, living habits, regulations and waste management system, the types of waste may vary greatly. Because of utilization, it is essential to sort municipal waste into relevant categories and to store them differently. (Daniel 2011.)

Figure 1 illustrates that municipal solid waste has been distributed into 13 categories. Based on this figure, kitchen waste accounts for 25% of total waste which is the highest percentage, whereas aluminium and white goods are the lowest sections – only 1% each. Other categories that need to be considered are paper and board waste and plastic waste because in daily basic activities, paper and plastic waste has been produced in a huge amount. (Daniel 2011.)



Figure 1. Municipal solid waste composition EU 27 (Daniel 2011).

Because of the complexity of waste composition, each stage in municipal solid waste management (collection, transportation, elimination or utilization) needs a specific technical elucidation. Municipal solid waste has been dumped into landfills for decades. However, there are some potential problems come up with the landfilling of waste like the production of leachate and gas, odor, vermin and the land usage. From mid-90's, incineration has been introduced as another waste management system along with landfilling. Incineration is not the optimal system since incinerators produce smoke, gases and toxic ashes. (Daniel 2011.)

3 3R IN WASTE MANAGEMENT

When it is into the context of waste management, 3R (Reduce, Reuse and Recycle) hierarchy system is commonly used for launching the legislations and regulations according to Directive 2008/98/EC of the European Parliament. Figure 2 presents the waste management hierarchy.



Figure 2. Waste management hierarchy (Directive 2008/98/EC)

This waste management hierarchy system is preferable when dealing with waste in environment-friendly and sustainable methods. Managing waste should be done without harming human health and endangering environmental surroundings such as posing risks to air, water, soil, plants or animals, without exposing nuisance through odor and noise, and without affecting places of special interests (Directive 2008/98/EC).

The systematical management system is required to minimize the generation of waste as much as possible, at every community level and every individual level. The environmental issues are highlighted more than ever before, that the produced amount waste cannot stay the same anymore. Hence, an efficient waste generation and waste management system are essential.

Increasing number of people on our planet leads to increasing consumption. In return, our natural resources are becoming more and more limited. (Madu 2007.)

Therefore, in addition to efficient waste management in organizations and legislations and regulations, changes in consumer behavior and habit are becoming more and more important. The current situation is calling for actual and serious actions on using the natural resources efficiently and wisely.

Figure 3 presents 3R hierarchy system which is used globally in waste management. It points out the order of waste management practices, from most preferable to least preferable in the term of sustainability. Three main points of this hierarchy are recycle, reuse and reduce.



Figure 3. 3R hierarchy system (Thomas 1998).

The following parts in this chapter might give a better understanding on how these three aspects of waste management hierarchy system been used in contemporary cases. There are examples on how Finnish Government execute laws and regulations to solve these three issues.

3.1. Recycle

One of recycling-oriented legislation example is Finland Government Decree on a return system for beverage containers. Palpa, the administrator of this deposit-based system, is a non-profit company. If manufacturers and importers become members of Palpa's system, they are exempted from the beverage packaging tax, which is EUR 0.51 per liter. In a result, most of beverage manufacturers and importers are members of Palpa. This system encourages consumers to return

the empty packages for further recycling, which is preventing the packages from dumping into nature or ending up in mixed waste. If the materials of beverage packages (mainly plastic in this case) are efficiently recycled, the natural resources are conserved, and surrounding environment can be kept cleaner. The materials sorting process is utilized thanks to this system. Most of the materials are reused as new packages by the beverage industry. (Palpa 2019.)

3.2. Reuse

Recycling successfully keeps waste out of landfill by a process of collecting, segregating and remanufacturing into new products. In Finland, Kierrätyskeskus – also known as non-profit reuse center, has established seven centers in Helsinki region (including Vantaa and Espoo area), which is offering reusable goods such as furniture, household items, clothes, toys, books and cookware. Other second-hand chains in Finland are UFF, Fida, RedCross. (Harrabin 2018.) These second-hand supplies are promoting a way of life – sustainable consumption. According to RREUSE group, 77% of European citizens would like to have their good repaired, but hardly ever do, since they think repairing is too expensive (RREUSE 2015). Kierrätyskeskus repairs electrical goods, design some items such as stylish classic clothes made from old curtains, bench made from a snowboard or stylish tray made from a leather-covered box lid. Approximately 50 million kilograms of resources has been saved in total in 2017, according to Kierrätyskeskus. (Harrabin 2018.)

3.3. Reduce

Comparing to recycling or reusing, reducing is more related to individual affairs. Hence, there is no regulation related to reducing. There are many simple ways to reduce waste in daily life. The simplest ways to decrease the waste of plastic bag is using reusable bags when going shopping. Instead of buying new plastic shopping bag every time going shopping, bringing a bag can save a small amount of money and an amount of wasted plastic bag. (Kearns 2019.)

Reusable containers can be another way of reducing waste. Investing in good quality containers for things like seasonings, cereals is a good choice for environment. Instead of discarding broken goods, learning how to repair them when necessary is much better for planet. Instead of using disposable plates and single-use plastic straw, changing into reusable dishes and straws which are made from aluminium, glass is better. (Kearns 2019.)

4 ZERO WASTE

Generally, zero waste means dealing with waste sustainably. It is first time introduced in the mid of 1970's by pHD. Chemist Paul Palmer. Zero waste is semi-philosophy of a set of practices aimed at minimizing waste at its lowest level. (Mauch 2016.)

Zero waste is considered as the most cost-effective method for communities to contribute to climate change fighting, protect human health and create living sustainability. However, in 19th century, recycling was assumed as the better option because it was cheaper to recycle than incineration. It was recognized as the cheapest disposal option of waste stream, even if there is little or no income from the sale of recycled material.

Since 1950s, the images of tons of landfills and wildlife choking on plastic junks had risen attention in the throwaway society. A great deal of wrath has directly targeted to manufacturers and users of Styrofoam cups, plastic bags and plastic bottles. From those negative feelings, the demand of zero waste society has risen. The zero waste society forces industry and communities behave in a more responsible manner. In addition, more regulations and legislations has been launched to require Extended Responsibility Producers (ERP) from manufacturers. (Connett 2013.)

Some people have a misconception that zero waste has the same idea as recycling. On contrary, zero waste does not promote recycling. Recycling is finding an alternative for dealing with waste materials. Although it is included in zero waste model, it is regarded as the second-last possibility before the landfill or composting (Johnson 2013).

For example, after throwing away a glass bottle, it will be crushed, melted and re-shaped in a new manufacturing process, which requires an amount of labor and manufacturing cost. But if the glass bottle is designed reusable and refillable, money and time would be saved along with keeping the environment clean.

4.1. Principles of Zero Waste

To follow of zero waste strategy, Zero Waste International Alliance (ZWIA) has published some principles and practical steps which are being applied all over the world in large urban communities and small rural communities. Zero waste is a critical fundamental for stepping to next stages of effort of protecting human health, improving equity and reaching sustainability. This section will present main principles which are extracted from ZWIA's documents (ZWIA 2018).

4.1.1 Adopt the Zero Waste definition

In some specific situations such as enacting legislations or doing research, it is important to stipulate one definition's precise meaning. There is no risk of misunderstanding if the definition is explicitly stated (William & Jonathan 2004).

The definition of zero waste has been evolved depending on the sustainable development goal which is a part of the principles of Zero Waste Hierarchy. In present, according to Zero Waste International Alliance, "Zero Waste is the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health" (ZWIA 2018).

4.1.2 Establish benchmarks

In order to monitor the process and assess the accomplishments, establishing benchmarks and having a detailed timeline is necessary.

Benchmarking is defined as the practice of comparing performances with standards or the achieved performances record. Benchmarking can determine whether the local communities' performances unfavorable or favorable by recording all the result in context. Based on that, the communities can set a reasonable goal within their abilities. (David 2012.)

4.1.3 Engage the whole community

Everyone has their own role in the movements toward Zero Waste community. As a matter of the fact that every person in the world generates wastes, what if everyone starts to do small actions in Zero Waste manner. Therefore, the process towards Zero Waste would become more quickly. All organizations (governmental organizations, non-governmental organizations, business and grassroots movements) and individuals should pursue Zero Waste everywhere. Communities should launch sustainable policies and programs. Existing service providers should adopt Zero Waste and try to reduce waste, provide deposit-return service, and support the communities and businesses. (ZWIA 2018.)

In addition, ZWIA has also shown concerns in education about Zero Waste for residents, businesses and visitors as they are a part of a community. It said that these actions required culture changes and behaviour changes. Therefore, some programs should be provided to educate and train residents, businesses and visitors and supply to them essential rules, information and guidance by government or local authority. (ZWIA 2018.)

4.1.4 Demand decision makers manage resources not waste

In term of waste disposal, landfills and incinerators are not sustainable options which can be used in a long-term period. According to ZWIA's explanation, landfills is commonly chosen because of its low cost and applicability of various types of wastes. However, landfill is the main source of greenhouse gases, which warms the atmosphere dramatically. Meanwhile, incineration is a better choice for utilizing waste to energy. (ZWIA 2018.) The energy stream, which is produced from the waste laid into the boilers, is used for district heating system and producing electricity energy. On the other hand, incineration is the direct and indirect source of greenhouse gases, and it produces toxic ashes as residue of burning process. (Williams 2005.) Consequently, instead of burning wastes and recovering landfill gases, the actions of reducing waste, reusing goods and recycling responsibly can help save more energy and decrease the global climate change impacts.

4.1.5 Perform Zero Waste assessments

Performing assessments and evaluations is important to measure the existing the waste management system under the control of local government. The evaluation can be divided into two stages: pre-evaluation and post-evaluation. In pre-evaluation stage, waste characterization and key problems of achieving Zero Waste should be defined. After implementing action plans, a post-evaluation stage needs to be carried out to assess the Zero Waste performances. (Atiq 2017.)

4.1.6 Enact Extended Producer Responsibilities rules

Extended Producer Responsibilities rule means the producers should hold the responsibility not only when the products are being used but also after the products are worn out. In another way of explaining, the entire life cycle of a product, especially the final steps of take-back, recycling, and disposal, should be included under the responsibility of the producer. (Lindhqvist 1992.)

This rule forces producers to use the financial incentive to redesign the product for easier re-using and being less toxic. In a result, worn-out product can be repaired, reused and recycled in the most environmental-friendly way as possible. This can reduce the amount of disposed waste in landfills. (Zero Waste Sonoma 2019.)

4.1.7 Expand Zero Waste infrastructures

There are many infrastructures need to be expanded during Zero Waste program period. Locations for reusing, recycling and composting should be developed, businesses and manufacturers should be encouraged to collect and process materials, take-back and recycle worn-out products. Businesses, non-governmental organization and groups of citizens should be supported to expand and promote reuse waste. Communities should support businesses and organizations to subscribe Zero Waste, and if possible, support locally operated businesses and enterprise to manage the discards locally and sustainably. (ZWIA 2018.)

4.1.8 Challenge businesses to lead the way to Zero Waste

Zero Waste-oriented businesses has established all over the world and brought positive impacts on environment. Their cost of managing and discarding resources and materials has been reduced while the operating efficiency has been increased. As a result, their carbon footprint and long-term liability has been decreased. Zero Waste businesses should be supported locally and encouraged to be expanded. (ZWIA 2018.)

4.2. 5Rs in Zero Waste at home

Not only promoting Zero Waste at community and government level but doing Zero Waste at home also is essential because municipal solid waste always accounts for a huge amount in generated waste. 5Rs in Zero Waste at home was first introduced by Bea Johnson in the book named “Zero Waste Home: The Ultimate Guide to Simplifying Your Life by Reducing Waste”. 5Rs is acronym of Refuse, Reduce, Reuse, Recycle and Rot. Figure 4 illustrates the order of 5Rs naturally which will result in very little of disposal waste.

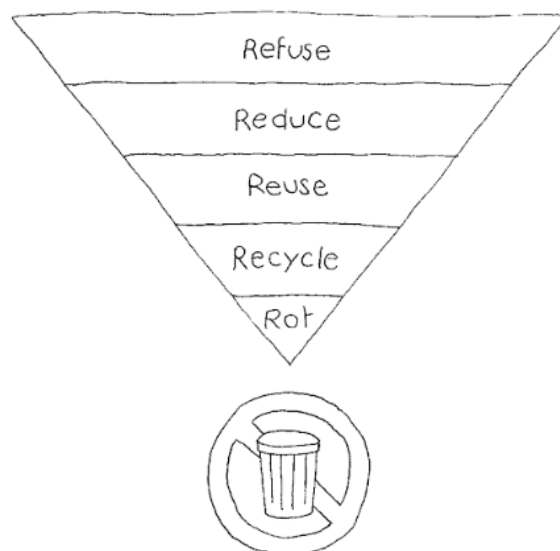


Figure 4. 5Rs in Zero Waste at home (Johnson 2013).

The first and second Rs (Refuse and Reduce) targets on prevention of waste, the third R (Reuse) addresses responsible consumption and the two last Rs (Recycle and Rot) deals with processing of waste. Zero Waste brings obvious and environmental advantages like reducing pollution and encouraging nature conservation. Zero Waste benefits are more than ecological aspects. In addition, following Zero Waste lifestyle also undeniably improves living standards and simplifying lifestyle by applying these 5Rs.

As a note for this part, there are differences between the 3Rs Waste Management system and 5Rs in Zero Waste. First and utmost, the 3Rs Waste Management mentioned about the laws and regulations which targeted the government and administration groups. In contrast, 5Rs discusses about the application and benefits when conducting the above five activities in daily society which targets living habits of normal people in dealing with municipal solid waste. Even though, reduce, reuse and recycle are both mentioned as key terms in two models, the purposes of application are distinguished.

4.2.1 Refuse – What We Do Not Need

Living in Zero Waste lifestyle means dealing with direct and indirect form of consumption. The first R (Refuse) addresses the indirect type, starts Zero Waste from outside of the house. In the very first steps, refuse phenomenon focuses on not choosing the needless goods and prevents them from coming into our daily life. In general, refusing means curbing consumption, taking only what is essential and decreasing the demand.

According to Johnson, in this consumer-driven society, there are four areas that should be considered: Single-use plastics (SUPs): Every single use of this plastic product encourages dangerous chemical leaking into surround environment, subsidizes the manufacturing of products that cannot be recycled or be degraded. SUPs also is the main source of plastic pollution in the ocean. This problem is highlighted as never before in our society. The impact can be minimized by simple action: refusing using SUPs. (Johnson 2013.)

Secondly is freebies. In conferences, events, festivals or hotel rooms, there are many hotel room toiletries, food samples, swag bags which are considered as freebies. Freebies are intentionally designed and manufactured cheaply and made of plastic. Their durability even last shorter than SUPs, which means they break easily. However, they will not be degradable after throwing away or dumping into landfills. (Johnson 2013.)

Next, junk mails or advertisement flyers should be considered. Junk mails from mailbox are always dumped into trash bin without any thought. Producing junk mails or advertisement flyers is contributing to deforestation and wasting energy for fabricating. By attaching a small note “No advertisement” on the mailbox, junk mails will be partly eliminated from daily life. It is impossible to completely block them from entering the house because of the mailing options offered by governments. (Johnson 2013.)

Lastly, there are many unsustainable practices in daily living. Wrapping snacks to school, accepting receipts after paying, receiving business cards that never be consulted, purchasing extensive packaging. These wasteful practices can be avoided if the consumers let the manufacturers and the service providers know what they need. For example, if there are many consumers refusing receiving receipts, it will create the need of alternatives such as stopping printing receipts or providing e-receipts through email. (Johnson 2013.)

“Refuse” can be rude when there is an offer without any ill will but is denied for some reasons. However, the act of refusing of one individual does not mean the intention to behave inadequately in the society. It is about reflecting every decision and in the case of Zero Waste lifestyle, the person chooses to reduce the indirect consumption. (Johnson 2013.) Every action of refusing does not make waste disappear, but it will drive to the demand of creating more sustainable and environmental-friendly alternatives.

4.2.2 Reduce – What We Do Need and Cannot Refuse

The second R (Reduce) addresses the core problem of waste management in current society: rapidly growing population and associated consumption will lead to environmental consequences. In addition, natural resource is not unlimited which means it should be utilized responsibly.

Reducing is the most sustainable method according to the 3R waste hierarchy. The amount of generated waste can be minimized if it is treated carefully. Less production means less usage of natural resources. Reducing waste addresses the core issues of waste management: the potential environmental consequences of rapidly population growth, thriftless consumption and the finite natural resources. Reduction also means purchasing goods in considerable level and own only essential goods. In result, these actions will simplify lifestyle that allow consumer focus on quality versus quantity. (Johnson 2013.)

Reducing waste belongs to individual affair. Life conditions, financial situation, and regional factor need to be assessed to reduce waste successfully and conveniently. For example, stopping using car is impossible for who living in rural or semirural area, because the public transportation is difficult to accessed or even unavailable. (Johnson 2013.)

Current consumption habits and realities need to be aware for establishing reducing habit. Finding ways to more sustainable habits and stop unsustainable ones is always difficult.

4.2.3 Reuse – What We Consume

The third R (Reuse) targets both consumption and conservation. It also offers diverse options for disposal. There are some benefits which are brought by apply “reuse”. First of all, reuse habit can eliminate some wasteful demands such as shopping plastic bags or single-use plastic products by using reusable or refillable alternatives existing. (Johnson 2013.)

Secondly, through renting, loaning, borrowing or trading, many items can be maximize utilized instead of being unused for a long period of time. Thrift stores, garage sales or antiques markets are the source of shopping second hand items. Sometimes, some interesting or rare items can be found there. These actions would help diminishing the need of resource. (Johnson 2013.)

Reusing keeps waste out of the waste stream by passing the goods on to others who need them. Reusing means using the product for second or third or many times to prolong its lifespan. According the US Environmental Protection Agency, reusing waste can reduce air, waste and land pollution, reduce the need for new resources. (EPA 2019.)

While manufacturing new products from virgin materials diminishes our limited natural resources, or disposing of waste into nature pollutes our environmental, the communities are facing difficulties getting the affordable goods they need. The list of reusable items is unlimited, which can vary from clothes, furniture, household and office items, to electronics and computers, art materials, building materials. Buying and using reusable items support local waste management system as a priority method of handling materials, according the US Environmental Protection Agency. (EPA 2019.)

Extend the life of useful necessities: Repairing the broken products, returning the unused goods to stores, rescuing things such as one-side printed paper or using worn-out clothes as rags are some examples of extending the life of things. (Johnson 2013.)

4.2.4 Recycle – What We Cannot Refuse, Reduce and Reuse

Recycling is the most recognized environmental-friendly method when dealing with daily waste. Recycling is a process of actions that converts materials which can be treated as waste into valuable and useful resources (Madu 2007). Recycling is a process of the separation between recyclable materials and non-recyclable material in generated waste. After that, the new purposes for reusing the recyclable materials will be figured out.

Although the fourth R (Recycle) is the most preferable method when dealing with waste, it is the least sustainable option before composting. There are some associated concerns about recycling system including the required energy to process, the available regulations and guidance of manufacturers, municipalities, consumers and recyclers. In the Zero Waste world, not only recycling would be standardized all over the world, but the products and provided services also should be designed and manufactured for reuse and repair.

Nearly everything we use in our everyday lives can be recycled including aluminum cans, aluminium foil and bake ware, steel and tin cans, cardboard such as milk and juice cartons, magazines and newspaper, most glass products, plastics bottles, jars, and jugs, car and household batteries, light bulbs, electronics, and even food. Not only reducing the amount of waste dumped to landfills, but it also reduces the cost of consumption in daily living. (Kathryn 2013.)

Living a Zero Waste lifestyle means the entire life of the purchased products should be considered, including its recyclability. For example, plastic is not only toxic when manufacturing, but it is also difficult for degrading in landfill. The great news is that by the time refusing what is not essential, reducing what is necessary and reusing what is consumed, the needs of recycling and associated concerns will be decreased. (Johnson 2013.)

4.2.5 Rot – Compost the Rest

The last R (Rot) is all about composting the residue. As mentioned above, it is impossible to have no residue at all. There are a few possibilities for composting. If the municipality has a green bin program, utilizing it is a good option for composting. If not, home composting would be another alternative. Thousands of worms are ready for transforming household organic waste into nourished fertilizers for the home garden. The possibility of composted materials depends on the chosen composting system. It varies from food scraps, citrus, veggie scraps,

nut shells, egg shells, coffee grinds, hair or nail clippings. In return, the composting system improves the house's air quality by absorbing pollutants. (Jenna 2017.)

5 RESEARCH METHOD

This section will present the data collection method which is used in this thesis research. A questionnaire survey was prepared based on a set of questions related to literature review about Zero Waste. This study was applied top-down approach and the survey was conducted among Tampere residents to identify whether the Zero Waste lifestyle is trending in Tampere. The primary method was used in this research is quantitative method. Because of the main objective of this survey is finding the Zero Waste lifestyle trending in Tampere, quantitative research method is a suitable choice. Its data is more generalizable and precise as long as the sample size is large enough (Allen & Earl 2010). Zero Waste phenomenon has appeared and became a trend few years ago. The familiarity with this phenomenon has been established before. Because of that, quantitative is a good option in this case. (Allen & Earl 2010.)

The survey had questions about education background, the familiarity with Zero Waste, difficulties of living Zero Waste lifestyle or the reason why not following this lifestyle. The detailed survey questionnaire form is presented in Appendix 1. The questionnaire survey used mainly yes/no questions and multiple-choice questions. Because creating survey as simple as possible but still informative was the main purpose, yes/no questions and multiple-choice questions are the best options. A study has shown that the easier the survey is, the higher response rate is. The outcome of using yes/no and multiple-choice questions are simple, versatile data for later analysis. (Valerie & Lois 2012.) However, to avoid the bias of the fixed given results, "Other" answer option was added.

Other factors which helped receiving this high response rate in a short time were length of survey and survey structure. 91.1% of participants from one research agreed that they would complete the survey if it takes no longer than 15 minutes, and 94.1% of participants replied if the questions are short and concise, they were willing to do it. (Amany & Krishna 2017.)

The questionnaire survey was created by using Google Form for easy distribution online. The survey was distributed on social media platform called Facebook, in

two large groups named “Tampere foreigners” and “Tampere” because the main target of this research was residents living in Tampere. To get large number of contacted participants, conducting the internet survey is the better option. Moreover, individuals who are active on social media seem to be opinion leaders, early adopters of trending or new technology. (Valerie & Lois 2012.) Zero Waste is a new trending lifestyle that would be predicted to be an interesting topic for conducting survey online. In addition, Facebook users mainly are under 40 years old (Valerie & Lois 2012). In this thesis research, the internet survey platform is suitable for the targeted response group.

6 DATA COLLECTION AND ANALYSIS

This research aims to investigate the Zero Waste lifestyle trend in Tampere. This section will present and discuss the collected data as visual graphs and figures. There are 200 responses in total to survey. The population of Tampere is approximately 230 000, and the collected sample size was 200. With confidence level of 95%, the calculated margin of error is about 7%. The margin of error means if the survey is conducted 100 times, 95 respondents would have the same answers within the error of plus or minus 7.

6.1. Respondents' distribution

Figure 5 illustrates the age distribution among 200 respondents. Over 30-year-old section has the highest percentage 37% which means 74 persons. 18-25-year-old and 26-30-year-old have almost the same number of respondents. The least section is under-18-year-old – only 1 response. Based on the calculation, the estimated age average of 200 respondents is 27,7.

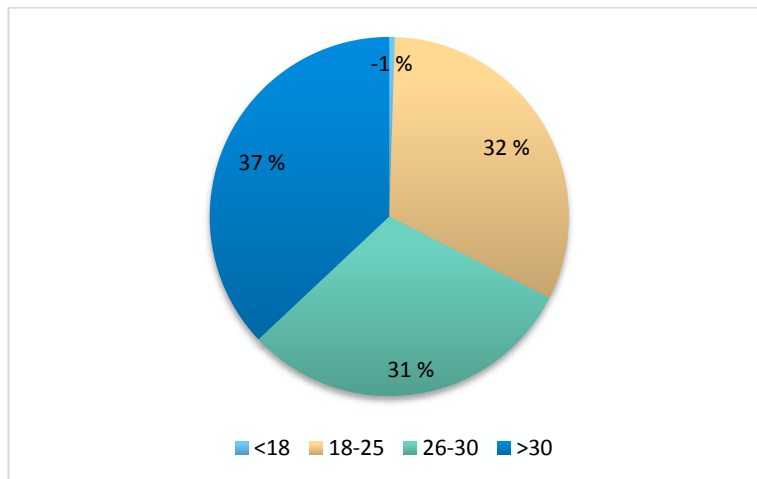


Figure 5. Age distribution

Among 200 participants, Bachelor's level and Master's level have the same number of 85, while PhD level has only 8 persons in total. High schoolers occupy for 6%, which has the same amount of other education background.

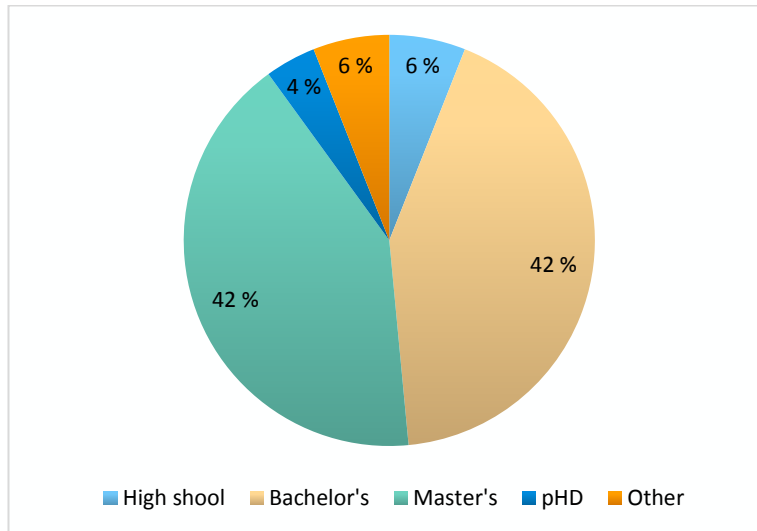


Figure 6. Education background distribution

6.2. Familiarity with Zero Waste concept

The next question is “Have you heard about the concept of Zero Waste?”. This question is designed to investigate the familiarity of this new concept in residents. From Figure 7, it means that Zero Waste concept is quite familiar with most people, especially with social media active users. 80% of respondents replied yes which means social media is a good platform to spread and update latest information, guidance and regulations related to Zero Waste.

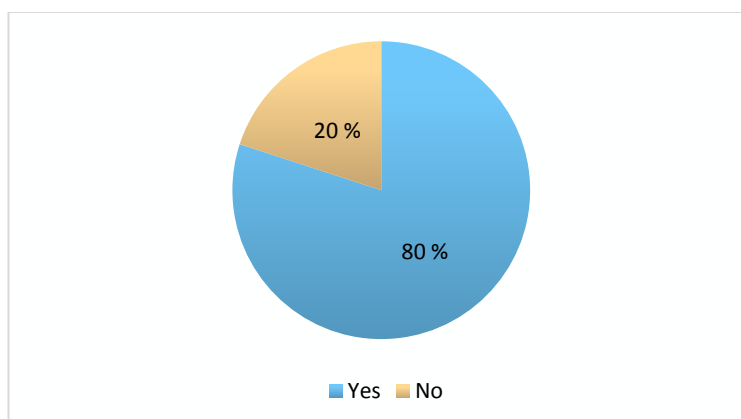


Figure 7. Familiarity with Zero Waste concept

6.3. The necessary of Zero Waste lifestyle in Tampere

40 persons who replied “No” in the previous question has been skipped from answering these two questions “Do you think Zero Waste lifestyle is necessary?” and “Are you following Zero Waste lifestyle?” as a pre-designed setting of the survey. Therefore, 160 persons who chose “yes” previously were moved to reply the upper two questions, and the collected data is presented as below.

Figure 8 illustrates the percentage of answers for yes/no question “Do you think Zero Waste lifestyle is necessary?”. Most of respondents replied “Yes” which means they realized that Zero Waste concept could bring environmental benefits for current society. However, still 33% of respondents believed that Zero Waste lifestyle is not necessary.

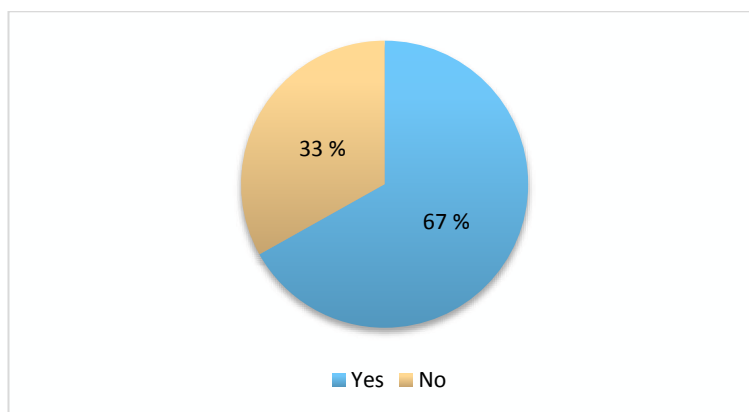


Figure 8. The necessary of Zero Waste

Figure 9 presents “how many respondents are choosing living Zero Waste lifestyle”. In contrast with the previous question, more participants chose answer “No” for this question. Although most participants believed or knew how advantageous the Zero Waste concept is, they still not chose to live with this lifestyle. The reason why persons were not following Zero Waste lifestyle would be investigated in next question.

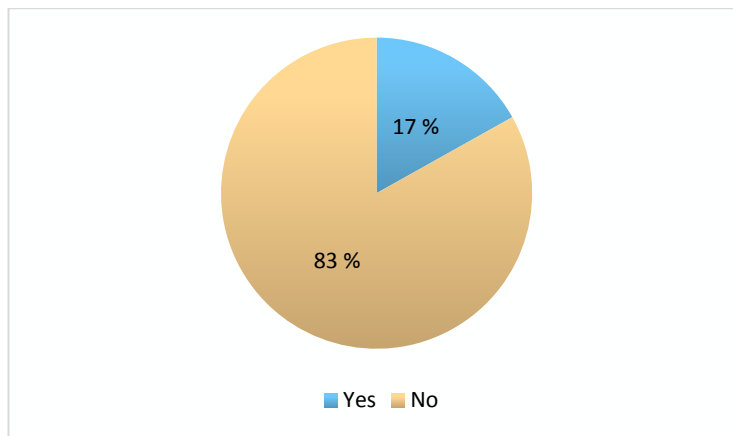


Figure 9. Percentage of following Zero Waste

6.4. Challenges of living Zero Waste lifestyle

Participants who replied “Yes” in the previous question would be moved the question about challenges of living Zero Waste lifestyle. There were six given options and the respondents were asked to choose from one to three best options. The answers are presented in Figure 10.

According to Figure 10, excessive-packaging is the most challenged problem with 81.5% of respondents chose that. Following next is lack of facilities (no package-free store, no refill station) which were chosen by 66,7% of participants. Lack of motivation is the least chosen option, which only 18,5% of respondents chose.

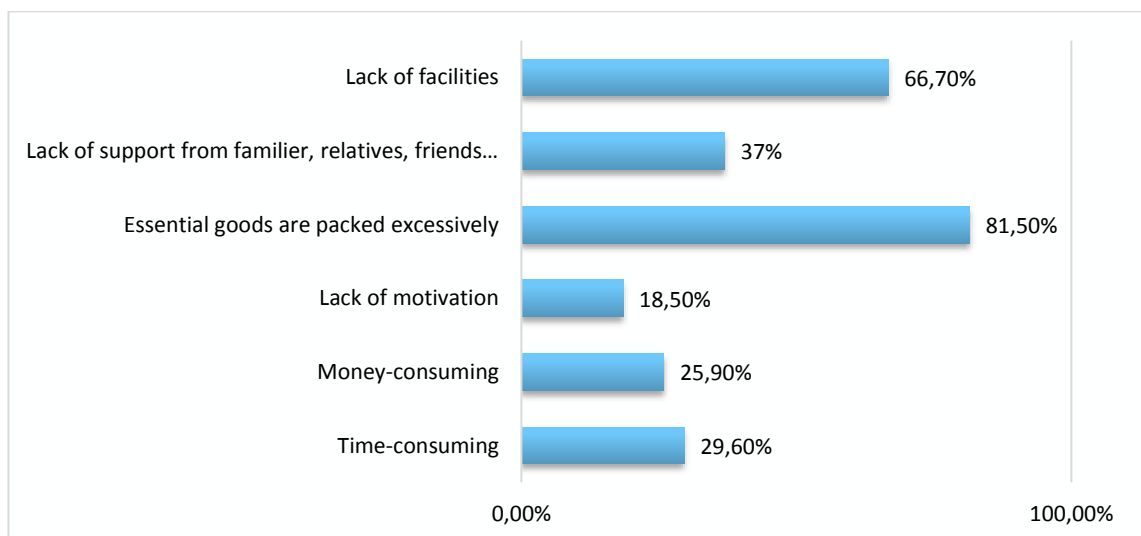


Figure 10. Challenges of living Zero Waste lifestyle

6.5. Reasons of not choosing Zero Waste lifestyle

Respondents who chose “No” in the question “Are you following Zero Waste lifestyle?” would be forwarded to the question about reasons why they chose not to follow this lifestyle. As the same as the question about difficulties when living Zero Waste lifestyle, this question consisted of six options and respondents were asked to choose from one to three best options according to their opinions. The result is illustrated in Figure 11.

The most common reason that respondents did not choose to live with Zero Waste lifestyle is lack of suitable facilities – approximately 80% of respondents chose that. Following next reason is they do not think zero waste is possible, which means they believe that there will always be residue, were chosen by 66% of respondents. The least chosen option is they are not interested in it or they do not care about environmental issues, which there were only 4,8% of respondents choosing it.

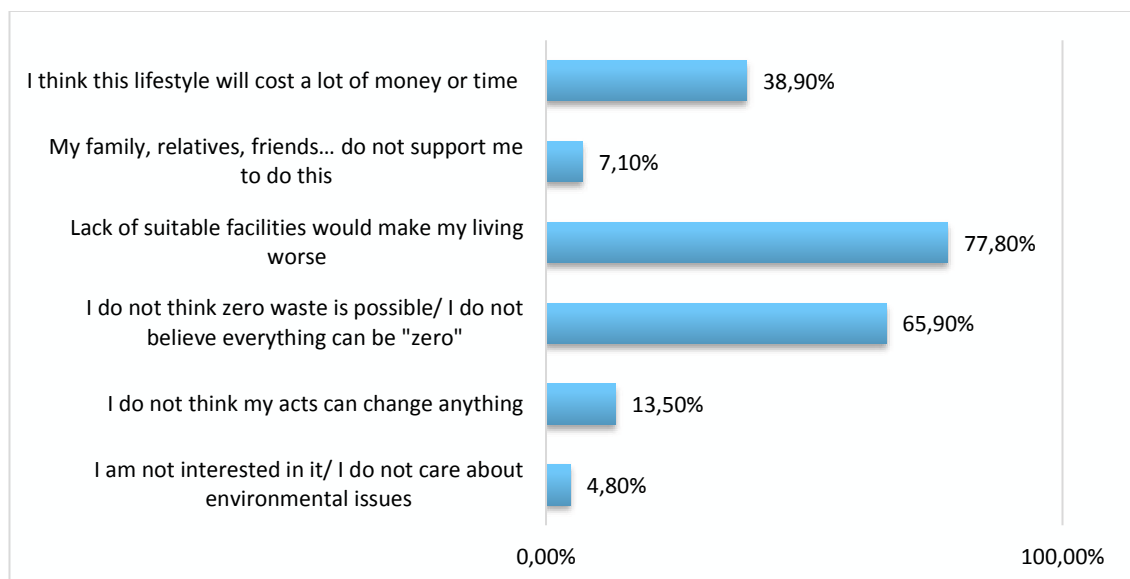


Figure 11. Reasons of not choosing Zero Waste lifestyle

6.6. Solution to convince other persons change into Zero Waste lifestyle

Because Zero Waste lifestyle is known about bringing benefits to environment and improving living standards, the main target in current society is convincing more and more persons change their lifestyle into Zero Waste lifestyle. The last question in the questionnaire was asking respondents to reflecting themselves. If they are following Zero Waste lifestyle, they were asked to think which options are the most suitable to convince others follow this lifestyle. If they are not following Zero Waste lifestyle or they even do not know about this concept, they were asked to think which options can change their mind.

Figure 12 illustrates the answers of the last question. 85,5% of respondents chose more support facilities would make the change. The second and third chosen options were getting detailed guide about “how to start being zero waste” and regulations from government. To avoid bias of given options and to receive more suggestions, the “Other” section was added, and 13 respondents replied it. Some interesting and useful suggestions will be presented and discussed in discussion section.

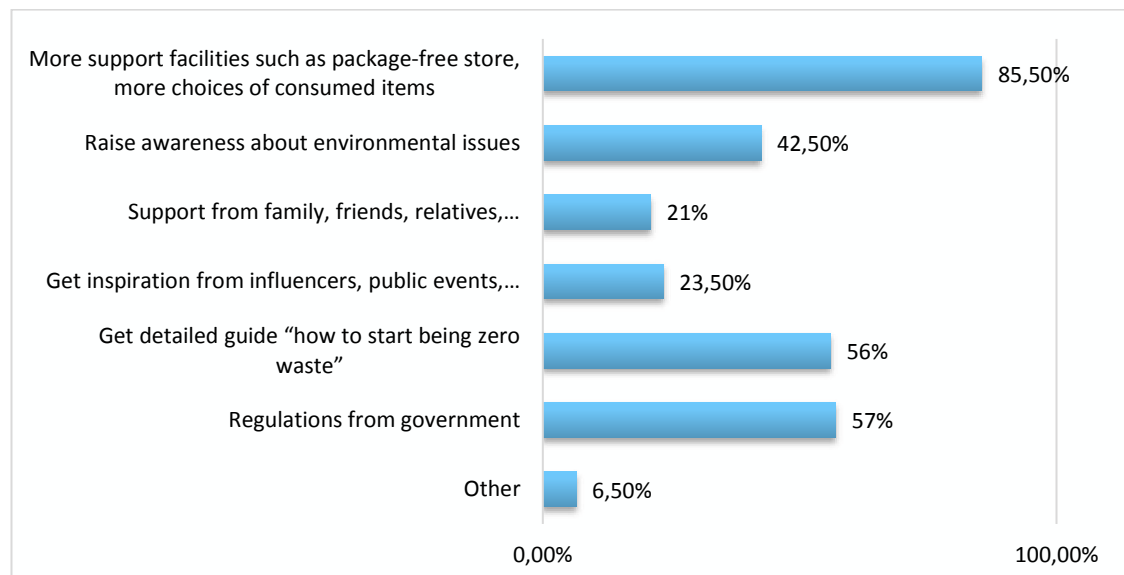


Figure 12. Options to convince others to change their lifestyle into Zero Waste

7 DATA ANALYSIS AND DISCUSSION

The survey was planned to collect answers by both online and face-to-face method to increase the sample size. However, after distributing the survey online in only day, notably there were 200 answers in total being received. In one research, Amany and Krishna have concluded that the survey topic, length of survey and survey structure have positive impacts on response rate (Amany & Krishna 2017). Based on their research, it can conclude that the survey topic – Zero Waste lifestyle, is an interesting topic and many people have interests about Zero Waste. Moreover, in total of 200 respondents, there were 21 answers in “Other” section, and some of them were informative and constructive. This can conclude that there are many people having interest or concern about environment, especially Zero Waste.

Before distributing the survey online, it was predicted to have more respondents in 18-25-year-old and 26-30-year-old group than over-30-year-old group, because Zero Waste is believed as the new concept in current society situation and the younger person is, the easier adaption of new concept is. According to Figure 5, surprisingly over-30-year-old group has the highest response rate, which means the older age was interested in Zero Waste concept. One study from Brenton and Deniz has proved the relationship between age and pro-environmental variables. It has shown that the older age had a link with more environmental-friendly behaviors such as reducing use, avoiding waste, recycling more regularly (Brenton & Deniz 2013).

According Statistics Finland, group of persons from 25 to 44 years old have employment rate of approximately 80% (Statistic Finland 2018), which means most of respondents in two groups 26-30-year-old and over-30-year-old in this research have stable income. In a study by Franzen already proved that the increase in wealth and welfare creates a change from materialist to post-materialist and rise the demand for a better environment (Franzen 2003). From those explanations, persons who have stable income would like to change into environmental-friendly lifestyle. However, younger people were reported to have more environmental concern comparing with older people in one research (Klineberg,

McKeever, & Rothenbach 1998). This can explain why the total number of respondents in 18-25-year-old and 26-30-year-old group is much higher than the number of over-30-year-old group. However, this study was conducted a long time ago (in 1998), the situation may change and a new research about this factor should be established.

Education background can be related to acknowledge of Zero Waste concept. One study has shown that generally higher educated persons have more concern about the environment. The research has proved that education has directly connection with pro-environmental behaviors such as recycling, proper disposal. In that research, it also estimated that one additional education year would increase the probability of appearance of environmental-friendly actions by 3,3%. (Hsu & Rothe 1996.) Another research supports the theory that graduates, and post-graduates expressed their concerns about environment and most of them willing to accept the changes in their lives for environmental reasons, while those who has no qualification (in this research, other education background) or doing high school expressed the lowest level of concerning (John et al. 2015). Those above researches can explain why Bachelors' and Masters' respondents were accounting for mainly the total number of respondents.

Although most of respondents (67%) believed that Zero Waste is necessary because of its benefits for environment and living standards, major of them (83%) did not choose to follow Zero Waste. Zero Waste is the new living concept which has myths of difficulties. Lack of facilities such as package-free stores or refillable stores was believed to decrease the living condition if following Zero Waste lifestyle. According to Appendix 2, one of respondents said "It is not possible to go zero waste with the tempo that we live. Additionally, it is sometimes impossible to avoid plastic packages." Moreover, according Figure 10, excessive-packaging and lack of facilities are the most two difficult problems that people who are following Zero Waste lifestyle are facing. From those responses, it can interpret that the current linear economy would create difficulties for the development of Zero Waste lifestyle. As a result, in Figure 12, the participants wished to have more suitable facilities for Zero Waste, which means change the current linear economy into circular economy. Circular economy is a system which stays away limited natural resources and removes waste and pollution from society. It is totally

antithetical to current linear economy “use, abuse and trash” system. (Galvao et al. 2018.)

There is a myth about Zero Waste lifestyle: it will cost a lot of money and will be time-consuming. This myth was double confirmed in Figure 11 – approximately 40% of respondents chose money-and-time-consuming was the reason holding their back from Zero Waste. In contrast, Figure 10 showed that approximately 25% of participants who were living Zero Waste lifestyle chose time-consuming and money-consuming as their difficulties. In addition, Kathryn presented that the truth is totally different: the living cost will be saved exponentially. All the wasteful and costly things such as packaging, paper towels, tissues are thrown away. (Kathryn 2013.) Moreover, based on previous literature review, living Zero Waste will reduce the cost and the time significantly by applying 5Rs hierarchy obligately (Johnson 2013).

In Appendix 2, one respondent said: “I do recycle everything but do not do completely zero waste because a mother of two little children it is beyond my energy.” This response has pointed out one of the problems in Zero Waste initiatives: feminization. According to CBC, men do household chores 50 percent less than women (Fletcher 2017). In addition, some researches have been established to study about “second shift” – the term describes the majority of cleaning and child-care work women do after coming home from the full-time job (Arlie 1989). One research has confirmed that women have more concern about environment than men, and they recycle, save waste and compost properly more regularly (Intel 2018). From those points, Zero Waste still have a hidden gender problem which needs to figure out.

Another difficulty that Zero Waste lifestyle are facing is lack of support from family, relatives, friends. As being mentioned above, choosing living Zero Waste is an individual affair, which means some factors such as living condition, financial condition, religion need to be assessed. The only one solution for this difficulty is inspiring close relatives like spouses, children, parents about Zero Waste and helping them to understand the situation. (Johnson 2013; Kathryn 2013.)

On the other hand, one of significant reason why people did not choose Zero Waste lifestyle is that they do not believe everything can be “zero”. There were some detailed responses being given according to Appendix 2. Some of them were: “I think what puts many people off is the idea that it needs to be PERFECT to matter.”, “I personally don’t think zero wasted lifestyle is good, instead I prefer minimalism which I can consume the product I like but still try to reduce something unnecessary. To me, reduce is always better than replace. Because when you try to do zero wasted you also have to find other product plastic free, in other words you just replace not reduce.”, “Zero waste is a strict term and scares people. Every small change reduces the waste going to the landfills, no need to feel a pressure for not being perfect and having zero waste lifestyle.”

In the survey, there were some people mentioning about “minimalism”. Minimalism and Zero Waste are two totally different terms in the dictionary of living lifestyle. However, they are sharing the same core principles: refuse, reduce and reuse. They are about self-reflection, cutting the excess and finding own “enough” (Kathryn 2019). Minimalism and Zero Waste are not conflict with each other, they are going along and support to each other in the journey of conservation environment. For some people, minimal-waste lifestyle means instead of filling a 10-litre garbage bag a week, 5-litre garbage bag a month is acceptable. To others, going zero waste lifestyle means sending nothing to the landfills. It depends on the enthusiasm level of the targets. According to an analogy from Rita Yi Man Li - director of the Sustainable Real Estate Research Center at Hong Kong Shue Yan University, underachieving slightly on a tougher target is better than overachieving on an easier target (LaBrecque 2015). Instead of fearing trying to be perfect in the Zero Waste journey, reducing waste as much as possible is better as initial step in living more environmental-friendly.

Although Zero Waste lifestyle has just been trending few years ago, most of respondents already get familiar with this new concept of living. Many participants wish to get detailed guide “how to start being Zero Waste”, which means they knew what Zero Waste is, but they did not know where to start and what to do. With the evolution of the technology, spreading information and update latest news have become easier than ever before. Social media, e-newspapers, e-books are accessible and available everywhere. These information sources may

cannot be applied fully because of the different factors like living condition, religion, financial situation. The useful informative sources are always available and accessible.

The survey also proved that regulations from government have a great impact on changing residents' consumption behaviors. Governments have always been in a business of shaping behaviors. Behavioral economics, which is a combination of economy and psychology, has established a new connection between policy-makers and psychological results. Especially behavioral economic has found an increase in the amount of receptive audience in government in broad problems such as climate change or social exclusion. (David 2014.) In Appendix 2, there was one respondent believing that regulations done by the government is the most effective support to help Finnish people realize how advantage the Zero Waste lifestyle is. The respondent believed that Finnish people are more likely to obey regulations and official orders rather than follow a trend, this would make Zero Waste easier to be applied in daily society. As being discussed before, the current economy system is all about "use, abuse, and trash". If the governments could launch regulations and legislation which change it into circular economy, it would be easier for residents to follow and change their consumption habits. Some other interesting suggestions which have the same idea were changing in packaging design into degradable ones, putting more pressure on companies to stop producing waste, providing more affordable package-free choices. However, it will take time for this to stop being a trend and become a common lifestyle.

Zero Waste has been spread and applied globally. Some legislations and regulations have been introduced by the countries all over the world are working effectively in waste management to move towards Zero Waste as quickly as possible. In the Global Climate Action Summit in September 2018, 23 cities have made a bold commitment to reduce the amount of generated municipal waste solid and accelerate them on the path of Zero Waste. By participating C40's Advancing Towards Zero Waste Declaration, the produced municipal solid waste is expected to reduce by 15 percent per capita by 2030, the amount of waste sent to landfills and incinerations by 50 percent and the diversion rate is planned to increase till 70 percent by 2030. The residents in those cities promise to avoid at

least 87 million tonnes of disposal waste, the local communities and municipalities committed to implement actions to reduce the amount of municipal solid waste generation and improve material circular management. (Global Climate Action Summit 2018.)

Another example is Kamikatsu village. Kamikatsu is about one-hour drive from the capital city Tokushima of Tokushima prefecture. Its population is approximately 1580 in 800 households. In 2003, this small village has set a goal to eliminate waste by 2020, which means sending nothing to landfills and incinerations. It has become the first municipality in Japan implementing Zero Waste. (Nippon.com 2018.) To achieve the goal, the residents sort waste into 34 categories. It took a long time for residents to adjust their lifestyle of washing, sorting and transporting their trash to center. As a result, 80% of generated waste has been recycled, reused and composted. (Leanna 2017.) Based on the survey and presented examples, launching Zero Waste related regulations and legislations would change Zero Waste lifestyle from being a trend to become a common living habit.

8 CONCLUSION

Zero Waste lifestyle is a new topic and the awareness has just been risen. In Tampere, Zero Waste lifestyle is just a trend at the moment. Approximately 70% of respondents believed that Zero Waste is necessary. However, only 20% of respondents were following Zero Waste lifestyle. This low number of people following Zero Waste lifestyle occurred because of the shortage of suitable facilities and person perceptions, like this lifestyle will cost a lot of money and nothing can be “zero”. On the other hand, according to some respondents who are living Zero Waste lifestyle, living this lifestyle has some certain difficulties such as packaging excessively when going shopping and shortage of suitable facilities. There were some similarities between the response of following Zero Waste and non-following Zero Waste. Many of them believed that providing suitable facilities like package-free store, refill store, would make the way to Zero Waste more smoothly.

According to some respondents, the key factor for changing Zero Waste from being a trend into a common lifestyle, especially in Tampere, is the governments and administrations. To support and move toward Zero Waste and better waste management system, the governments and municipalities should have active actions in the fight of waste. Reducing, reusing and recycling are the most suitable practices for improving and developing waste management system. However, if the population is keeping growing, 3R hierarchy need to be taken in consideration as it is not the best answer for the waste management anymore (Palmer 2005).

Based on the survey response, beside of common difficulties like lack of suitable facilities, lack of information, some hidden problems have been discovered. One of the discovered problems in this research about Zero Waste initiatives is feminization. The world of Zero Waste is led by female, who make their beauty products, household things by themselves. These activities indirectly put more pressure on women. On the Zero Waste path, each individual needs support from families, relatives, friends, although living Zero Waste lifestyle is their own choice.

Another term has been risen in this research is “minimalism”. Minimalism and zero waste are sharing the same core principles and they support to each other on the journey of protecting natural environment. The term “zero waste” is so strict, hence, they choose living minimalism as an alternative. However, Zero Waste or minimalism are both good initial steps in the journey of reducing waste.

Regarding of the methodology, the best result can be achieved by combining between questionnaire on a large scale and semi-structure interview. This research could not be reached because it was difficult to contact related people such as influencers, policy decision-makers, and the time limit. For further research about Zero Waste lifestyle, it is suggested that more thorough analysis on available researches should be carried out and the analysis should be based on latest situation of Zero Waste. In addition, the concentration of the research could be implemented to a larger scale in order to make more general result. This topic of Zero Waste lifestyle requires an extensive knowledge and ability that could analyze and clear the conclusion. To implementing the research successfully, a high level of knowledge regarding of the subject would be required. This topic is new and interesting. It still has many aspects for researching and investigating.

Zero Waste is not about garbage or trash. Zero Waste not only means dealing with 3R but also changes in consumption and purchasing behavior. However, Zero Waste is a good initiation in the fight of climate change and environmental issues in present. It cannot change the situation immediately, but it changes the people’s mindsets and behaviors, which have directly impacted on environment. If Zero Waste lifestyle can be spread and applied globally, the amount of waste will be reduced dramatically. However, applying Zero Waste in daily living life will require a lot of effort from everyone.

In conclusion, the purpose of the research has been achieved. The survey presented the current situation of Zero Waste lifestyle in Tampere, Finland. Moreover, it also discovered some significant hidden problems. Among those discovered matters, minimalism has been risen as a new term in the journey of conversation environment. After the research, some helpful suggestions were gathered throughout the respondence, which gives a deeper insight for this topic. Moreover, this research is believed to have a valuable contribution for further study.

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APPENDICES

Appendix 1. Survey questionnaire form

1. Your age:
 - <18
 - 18-25
 - 26-30
 - >30
2. Your education level:
 - High school
 - Bachelor's
 - Master's
 - pHD
3. Do you know about zero waste lifestyle?
 - If yes, move to question 4
 - If no, move to question 8
4. Do you think zero waste lifestyle is necessary?
 - Yes
 - No
5. Are you following zero waste lifestyle?
 - If yes, move to question 6
 - If no, move to question 7
6. What are the challenges you are facing when being in zero waste lifestyle? (choose best 3 answers)
 - Time-consuming
 - Money-consuming
 - Lack of motivation (can the environment be better if I stay in this habit?, does this habit really work?...)
 - Essential goods are packed excessively (vegetable in plastic paper, coffee in plastic cup...)
 - Lack of support from families, friends, relative,...
 - Lack of facilities (no package-free store, limited of items...)
 - Lack of supportive community
7. Why you do not choose zero waste lifestyle? (choose best 3 answers)
 - I am not interested in it/ I do not care about environment issues
 - I do not think my acts can change anything
 - I do not think zero waste is possible/ I do not believe everything can be "zero"
 - Lack of suitable facilities would make my living worse (limitation of consumed goods, no package-free store in my area)
 - My family, friends, relatives... do not support me to do this
 - I think this lifestyle will cost a lot of money or time
8. Which following options that you think can change someone's lifestyle into zero waste lifestyle?

- More support facilities such as package-free store, more choices of consumed items
 - Raise awareness about environmental issues
 - Support from family, friends, relatives...
 - Get inspiration from influencers, public events...
 - Get detailed guide "how to start being zero waste"
 - Regulations from government
9. If you have any other response to the questions above, feel free to give it here:

.....

Appendix 2. Answer data

- Question 1:

Age group	<18	18-25	26-30	>30
Number of answers	1	64	61	74

- Question 2:

Education group	High school	Bachelor's	Master's	pHD	Other
Number of answers	12	85	83	8	12

- Question 3:

Yes	No
160	40

- Question 4:

Yes	No
107	53

- Question 5:

Yes	No
27	133

- Question 6:

Category	Number of answers
Time-consuming	8
Money-consuming	7
Lack of motivation	5
Essential goods are packed excessively	22
Lack of support from familier, relatives, friends...	10
Lack of facilities	18

- Question 7:

Category	Number of answers
I am not interested in it/ I do not care about environmental issues	6
I do not think my acts can change anything	17
I do not think zero waste is possible/ I do not believe everything can be "zero"	83
Lack of suitable facilities would make my living worse	98
My family, relatives, friends... do not support me to do this	9
I think this lifestyle will cost a lot of money or time	49

- Question 9:

Category	Number of answers
More support facilities such as package-free store, more choices of consumed items	171
Raise awareness about environmental issues	85
Support from family, friends, relatives,...	42
Get inspiration from influencers, public events,...	47
Get detailed guide "how to start being zero waste"	112
Regulations from government	114
Other	13

- Other answers:

I personally don't think zero waste lifestyle is good, instead i prefer minimalism which i can consume the product i like but still try to reduce something unnecessary. To me, reduce is always better than replace. Because when you try to do zero waste you also have to find other product plastic free, in other words you just replace not reduce

It is not possible to go zero waste with the tempo that we live. Additionally, it is sometimes impossible to avoid plastic packages.

I believe it is really difficult to be zero waste at any cost, minimization of waste is a better concept

In my opinion in Finland the most efficient way to support and realize a zero waste lifestyle would be the support and regulations done by the government. Finns are more prone to follow official orders instead of just trends, so this would also make zero waste lifestyle easier because then stores would aim to follow the regulations and make it easier for the customers to not make unnecessary waste. So, the government and their regulations are a key factor in this case

I do recycle everything but do not do completely zero waste because a mother of two little children it is beyond my energy. We try to use reusable straws, do not use cling foil and plastic bags, we get cosmetics refilled or we make some at home. We reduce our waste where we can, but not completely waste free

I believe in recycling and minimizing waste, modest consumption and think especially bio waste should be zero. But in a society where everything "has to be" available all the time, big - perhaps slow but steady and determinate - steps/acts from the governments side are also necessary. Less choices of items (e.g. cheeses, meat products are more than anyone can buy).. More quality/seasonal/local/"aware" products, fill-up/reusable packages etc etc - and this is not in single consumers hands on a big scale.

This kind of choice puts the responsibility on "small" people, us users. Regulations should be fierce on big companies and producers, since they are the main responsible for environmental damage.

I think zero waste is a good initiative besides I don't do it because not everything can be packed without waste. Low waste would be my right option

My answer above was a more generic reply in terms of environmental protection. A zero-waste lifestyle is impossible, due to a dozen different laws of physics (thermodynamics, for instance). It's true, still, that we can do better than we currently do.

It will take time for this to stop being a trend and become the lifestyle of the majority. Zero waste is a strict term and scares people. Every small change reduces the waste going to the landfills, no need to feel a pressure for not being perfect and having zero waste lifestyle

I don't think ZERO is necessary or feasible. Instead of pressuring (already stressed) people into perfection, reward progress and meaningful steps such as offering reusable items, banning the most hazardous and useless items, pressuring companies so plastic waste doesn't pay off anymore, etc

I think what puts many people off is the idea that it needs to be PERFECT to matter. Small changes can make a huge impact, so focus on the fact that everyone can do ONE small thing and already make an impact. Publish studies, show them numbers (i.e. "if everyone stopped using plastic straws today, we would save X tons of plastic waste, save X turtles/dolphins (insert something cute), clear X m² of beach).

In Czech republic I found a milk "automat". You bought a glass bottle once for it and then you were able to fill it with coins. I think we'd need more options like that. Also would be better to leave empty carton boxed for customers to pack groceries in those than recycle right away from shop storage. With small things like that it would get easier to start zero waste lifestyle also for beginners. Main responsibility is on government and companies who do the "extra" packing to make boxes look bigger.

People aren't aware of how polluting some industries are and how plastic affects the human race

Marketing & media influence on zero waste lifestyle

I said that aim not following zero waste lifestyle because I'm not following that TOTALLY. However we are trying to pay a attention on what kind of packages we buy , plastic/paper/no package etc... We also recycle all our packages!

Zero waste lifestyle is a limitation on personal opportunities in the current days. It costs way too much money and time. It would also lead to loss of jobs in the recycling industry and lowering of consumption of goods. While modern lifestyle is indeed way too wasteful, that can be fixed by promoting a more balanced way of living. Introduction of more practical packaging and materials is also a dire need for reduction of waste in terms of ability for recycling and need of packaging as a whole.

Recycling facilities for plastics, biodegradable packaging

Being paid for the inconvenience

What about changing any packages to degradable ones? Like bio plastic bags? I think it is most likely

I think it is important to start educating the younger generations about this. The younger the better. The current generation got "comfortable/couldnt be bothered" anymore. We are on both extremes now where either someone cares too much or some just don't care at all. Start over